

# THE MILLING WORLD

AND

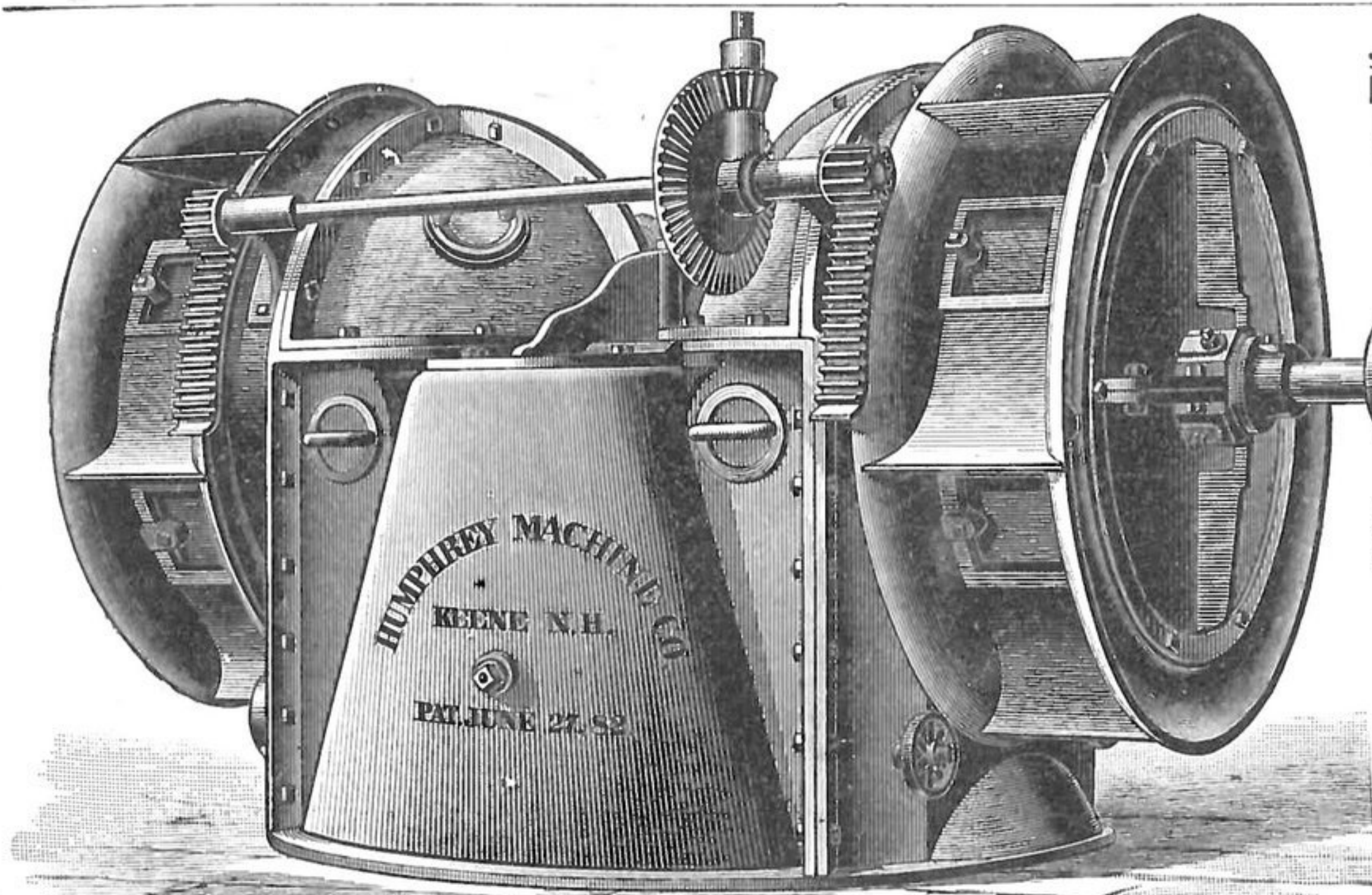
CHRONICLE OF THE GRAIN AND FLOUR TRADE

PUBLISHED EVERY MONDAY MORNING.

VOL. XXII. No. 25.

BUFFALO, N. Y., AUGUST 18, 1890.

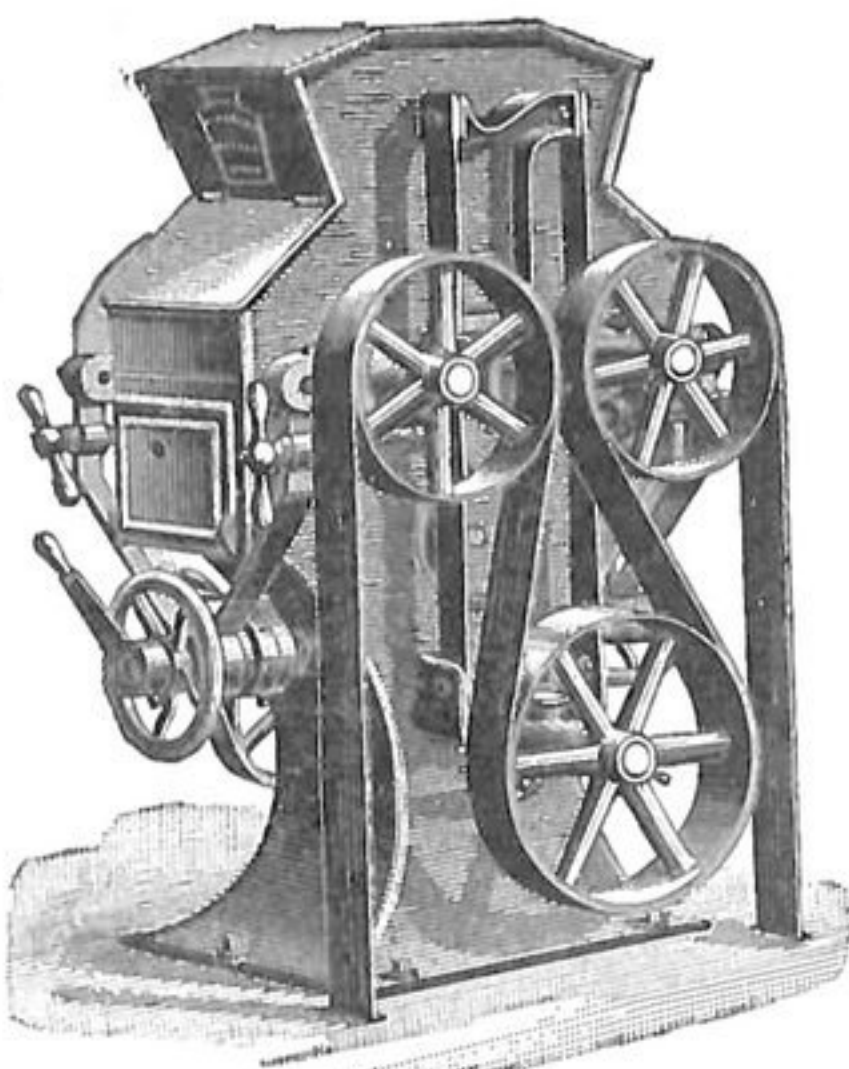
\$1.50 PER YEAR.



## THE X-L-G-R OR IMPROVED CIRCUMSHOT Water Wheel

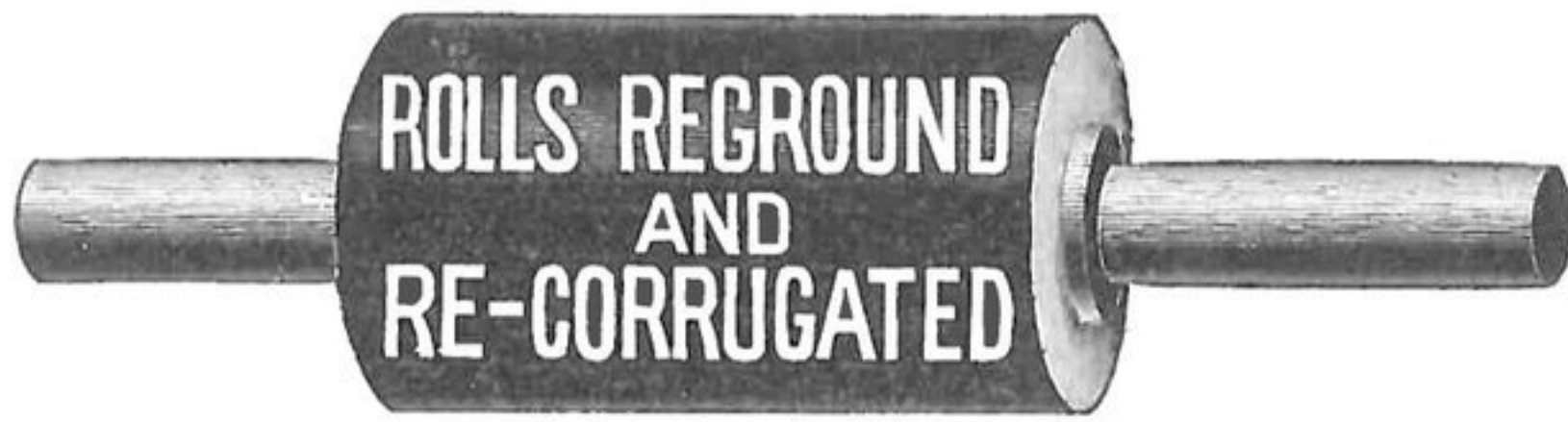
On Horizontal Shaft. Saves cost, annoyance and loss of power incident to use of gears. Affords more available power from water applied at full or part gate than any other. The cheapest, best and most desirable Water Wheel yet produced.

EFFICIENCY, ECONOMY and EXCELLENCE FULLY GUARANTEED.  
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## Flour Mills. Corn Mills. Hominy Mills. Unparalleled Results.



By the "Keystone" Roll Grinder, Manufactured by Ourselves. The only machine that will Grind Rolls Absolutely True.

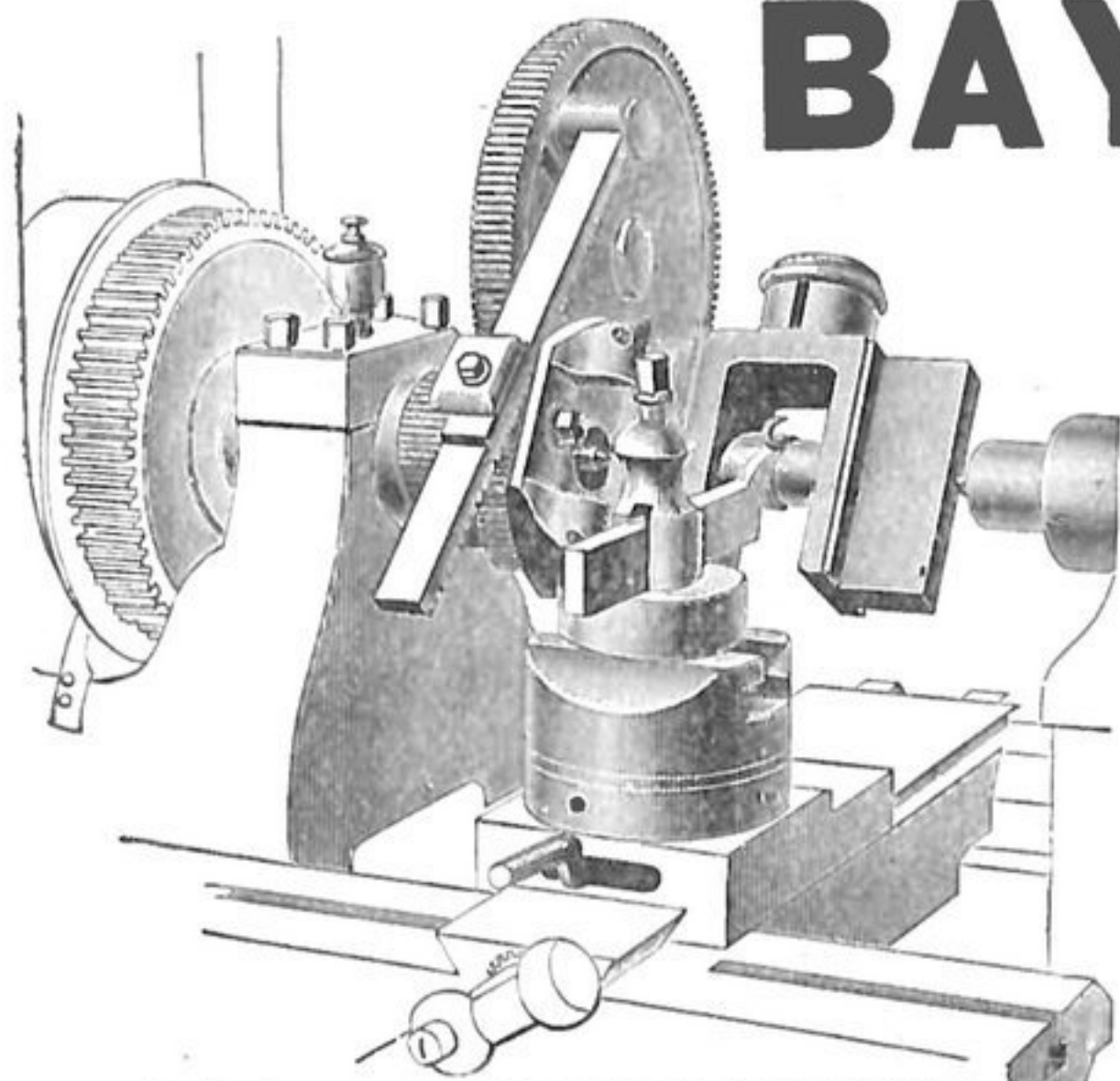
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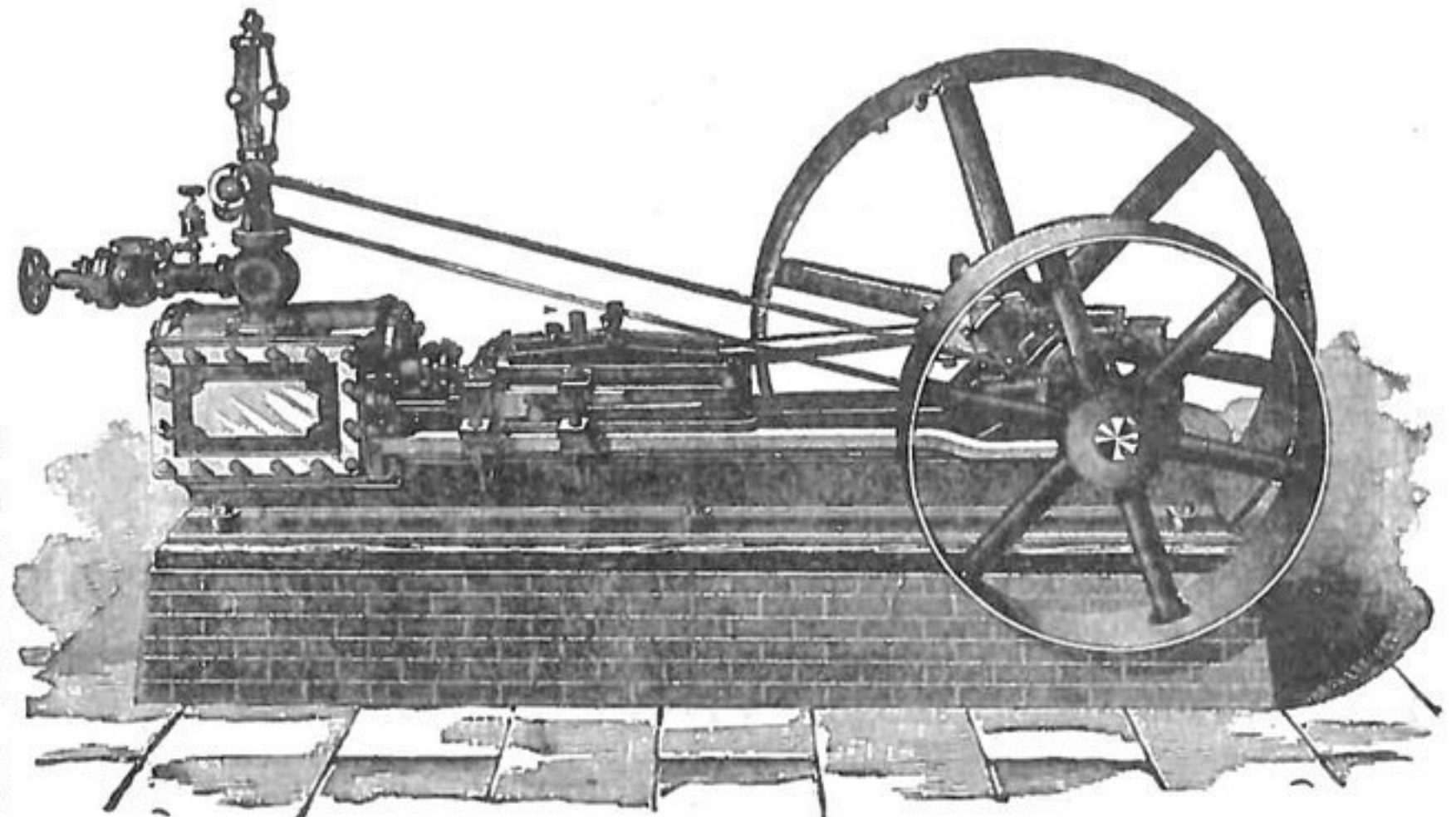
—Manufacturers of—

### Engines, Boilers, —AND— HOISTING MACHINES.

Also the Patent Cross-Head Machine and Acme Cube Pipe Tongs. We make either Center or Side Crank Engines, on same bed. Make engines from 5 to 250 Horse-Power. Have over 3,500 Engines and Boilers and over 1,000 Hoisting Machines in use, and all giving good satisfaction. Send for Catalogues and Prices.



PATENT CROSS-HEAD MACHINE.



IMPROVED DETACHABLE CENTER-CRANK ENGINE.

Noble & Hall, Box 462, Erie, Pa.



# OFFICE OF CASE MANUFACTURING COMP'Y COLUMBUS, OHIO.

## The Case Roller Mills. Over 14,000 Pairs in Use.

PLEASE READ OUR DESCRIPTION OF THEM, EVERY STATEMENT OF WHICH IS ABSOLUTELY TRUE.

PLEASE READ WHAT MILL OWNERS SAY ABOUT THEM.



The accompanying cut is a correct illustration of our latest improved Four Roller Mill. For fine work, great durability, simplicity, and general excellence, they stand "head and shoulders" above all others.

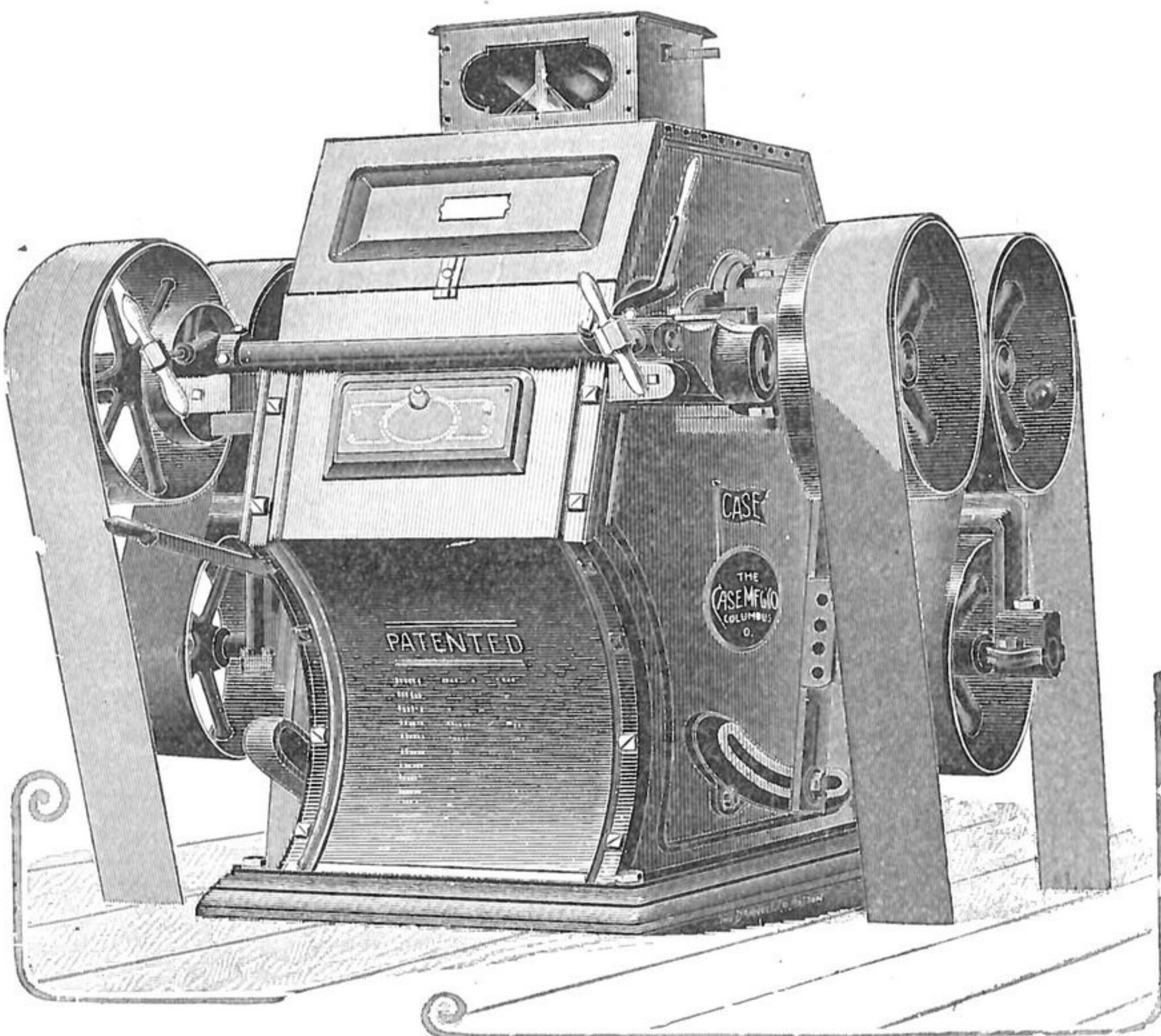
The frame is of iron with a heavy iron base.

The wood-work in top is of select cherry and black walnut, carefully shellacked and varnished.

The handles of adjusting screws and levers are finely nickel plated.

The joints are tight and dustless.

The adjustments easy, simple and perfect.



The roll bearings are wide and finely babbitted.

The belt drive is positive—no little short belts to slip.

The door for examining stock is a great convenience.

The arrangement for leveling rolls, simple and accurate.

The rolls can be thrown apart their entire length by one movement of the lever, and brought back again to original position, requiring no re-setting or experimenting.

Each machine is provided with our AUTOMATIC VIBRATING FEED, which requires no attention, and never fails to spread the feed the entire length of the rolls.



# LISTEN! MICHIGAN MILLERS TALKING NOW.

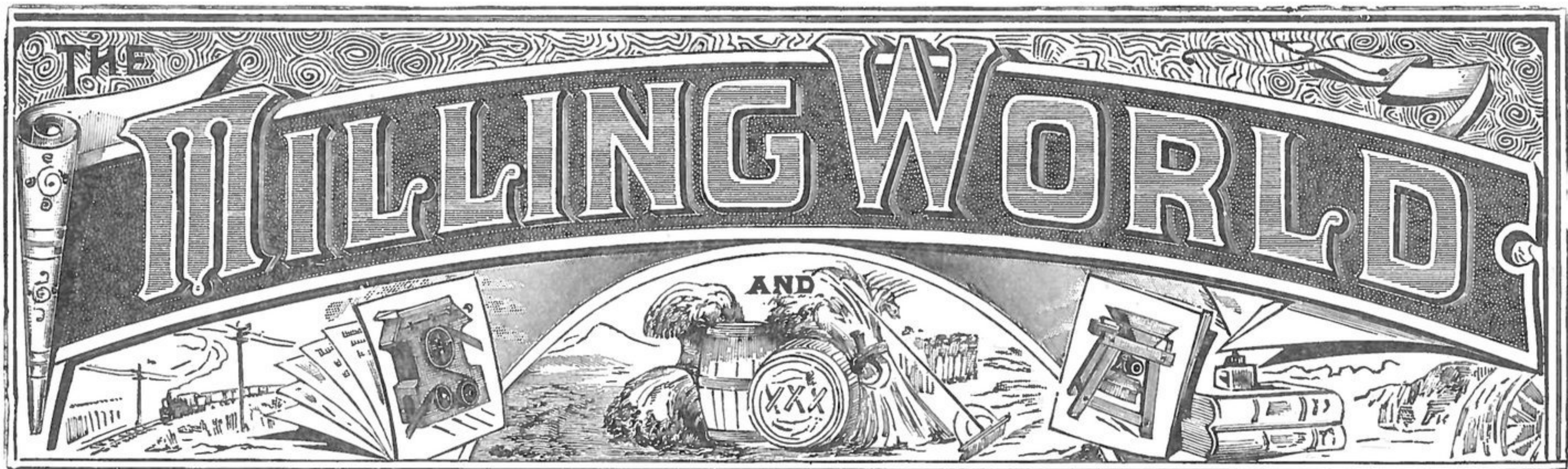
CHARLOTTE, MICH., AUG. 5, 1890.

MESSRS. CASE MFG. CO., COLUMBUS, O.

Gentlemen: The mill is running fine. We are enjoying quite a fine little trade. Already have put over twenty tons of flour on the market here since we started the 7th of July, and it is giving elegant satisfaction. Every one who has seen our outfit pronounces it A 1, and the Case Automatic Feed can't be beat. In fact the Rolls are models of perfection. We are making a close finish and placing our goods alongside of the long system mills, carrying off the cake. We are highly pleased with the millwright work, and find your Messrs. McKenzie and Shough congenial gentlemen to do business with.

Very truly yours, PERKINS & MOON.





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BUFFALO, N. Y., AUGUST 18, 1890.

\$1.50 PER YEAR.

THE burning of the Freeman flouring-mill at La Crosse, Wis., adds another "mysterious" fire and failure to the list of automatically sprinkled risks. Wonder what the sprinkler men will say to this failure. Will they still claim that the destruction of two great sprinkled mills at Winona, Minn., and of the third at La Crosse, all in a little over a year, means nothing? What is the matter with the automatic sprinklers?

DEFINITE results from the use of the Haggenmacher "Plansichter" and the Kreiss "Gegenflaechensichter" are so long withheld that American flour-makers have almost forgotten that those two "epoch-making," "revolutionizing" machines have been invented. What's the matter with the "Plansichter" and the "Gegenflaechensichter"? The Yankee palate will need "revolutionizing" to enable it to adjust itself to the long-system cognomens of the two German wonders.

CANADA, according to the Chief of the Grain Inspection Department of Western Canada, "has this year raised 50,000,000 bushels of wheat, 20,000,000 bushels of which will be available for export." Such figures are doubtless attractive reading for possible immigrants, but there is no foundation in fact for them. Neither the total acreage nor the average yield of Canada promises any such amount of wheat this year. Facts seem to point to everything but an available export surplus of 20,000,000 bushels. If the Canadian millers or flour-dealers believe the figures quoted it would be interesting to know why they continue to import American flour, instead of waiting for some of the 50,000,000-bushel crop to materialize. If Canada manages to scrape up an exportable surplus of 10,000,000 bushels from the present crop, it will be a surprise to those who have observed the course of affairs in the Dominion since the season opened.

It seems to be practically settled that the winter-wheat crop is a short one this season, and that the quality is very fine. The shortage by no means implies a scarcity so far as home needs are concerned, but simply a smaller surplus for exportation. The spring-wheat crop is being harvested in some regions, and it is yet too early to know anything of its bread-making quality, while the yield is also an undecided thing. The most northern portions of the spring belt may yet suffer serious damage from the elements. At this writing the prospect is good for an average spring crop of fine quality. The general situation would seem to mean higher prices for wheat on this crop. The fruit and vegetable crops are very short, and there should be an increased consumption of wheat. The European reports seem to imply very short cereal crops, and India is officially announced to be nearly 7,000,000 bushels short of last year's very short crop of wheat. The Argentine Republic has disappointed the European importers on its last crop, and serious political disturbances in that country threaten disaster to all its interests during the year. Every large element in the cereal problem implies a larger call for the American surplus on this crop of wheat.

BEYOND any question the cereal crops of the United States for 1890 will be decidedly short. By this it is not meant that there will be any want of wheat, corn or other grain for home consumption. A shortage is translated to mean merely less wheat and corn to export. According to recent estimates by men who have gathered information, the total wheat crop of the country will be about 400,000,000 bushels, and the corn crop will not go above 1,600,000,000 bushels. These figures mean nearly 100,000,000 bushels of wheat less than the crop of last year, and about 400,000,000 bushels of corn less. To these great shortages must be added a remarkable shortage in fruits, as the apple, peach, pear, plum, cherry and other fruit crops of the country are a failure everywhere outside of the Pacific Coast region. It is a remarkable country that can bear such shortages without actual want among the people. Bad weather and insect pests may wipe out enough wheat, corn and fruits to feed a large nation for a year, but the United States is in no danger of famine. In reality this shortage affects Great Britain and some other countries more directly than it affects the United States, for it means increased cost of living in countries that draw a large part of their breadstuffs from us.

THOSE milling journals that are attempting to boom the Millers' National Association are stultifying themselves. Their position is humiliating and would be absolutely intolerable to self-respecting men. These journals see, or pretend to see, in the association what is not, what never was, and what never will be, in it. They claim one thing for it, and it goes calmly on doing the opposite. They claim that it has been made more liberal, and it has recently contracted itself to even narrower dimensions and aims, to even more selfish and sectional views than ever. They say it "recognizes small millers," and it has adopted the "flour-barrel-vote clause" in its new constitution, which makes the small miller of no account in its councils. They claim that it is stronger than ever before, yet its most important transactions at the Minneapolis convention were the work of about a score of members. They claim that it is "growing in membership" at a great rate of speed, but it publishes a cabalistic "1,412 units" of capacity only instead of its actual membership. They claim that it "protects" its members, but in the report of the secretary at Minneapolis it "hedged" on the case of F. Arnold, of St. Cloud, Minn., who asked for "protection" and got something else. In short, nearly every claim made for the association by the two touters that are hanging to its tail is either explicitly denied in the acts of the organization, or serenely ignored by the millionaires who are in possession. The National managers either do not care to know what would make the association attractive, or else they are unable to understand when told. To the thick-and-thin touters, who are making themselves ridiculous by advancing claims for the National which it does not sanction or observe, it may not be amiss to say: Do not continue to be stupid, or dishonest, or ridiculous simply because you know how. Nobody is deceived by your misrepresentations concerning the Millers' National Association. Despite your whitewash, it remains the same old mildewed, weather-stained edifice.



# The DAWSON ROLL WORKS CO.

## FOUNDERS & MACHINISTS,

—MANUFACTURERS OF THE—

# Dawson Roller Mills

—AND FURNISHERS OF—

## CHILLED IRON ROLLS

WITH DAWSON PATENT CORRUGATION.

ALL STYLES OF FLOUR MILL ROLLS RE-GROUND AND  
RE-CORRUGATED WITH ANY FORM OF CORRUGATION.

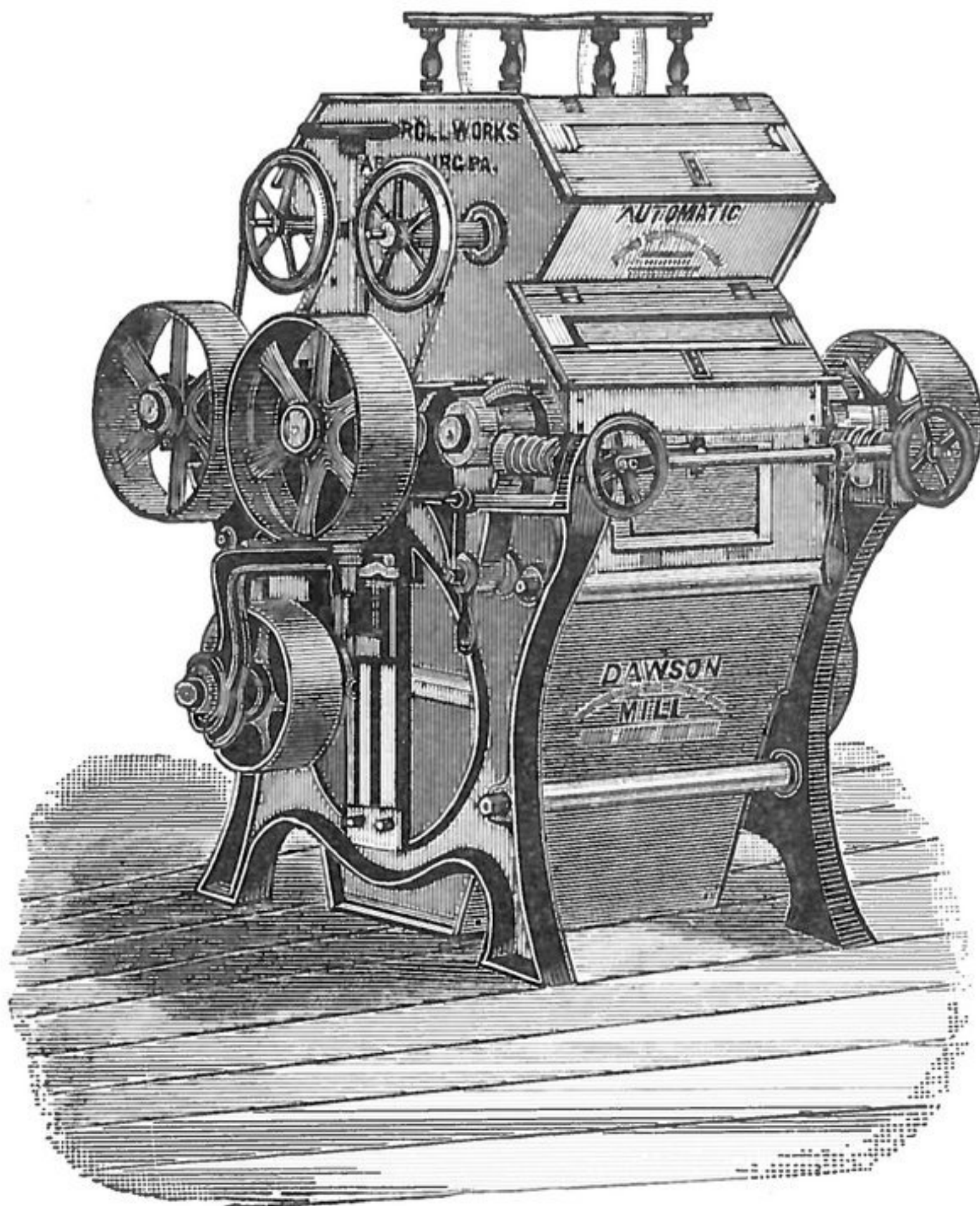
We have had large and extended experience in grinding and corrugating chilled rolls for milling, and have one of the largest and most improved plants in the country for this work, which enables us to meet the most exacting requirements of the trade promptly.

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# DAWSON ROLL WORKS CO.

South and Short Streets,

HARRISBURG, PA.



BEST STEEL SAFETY MADE FOR  
**\$35**

### Easiest LADIES' Tricycle Known

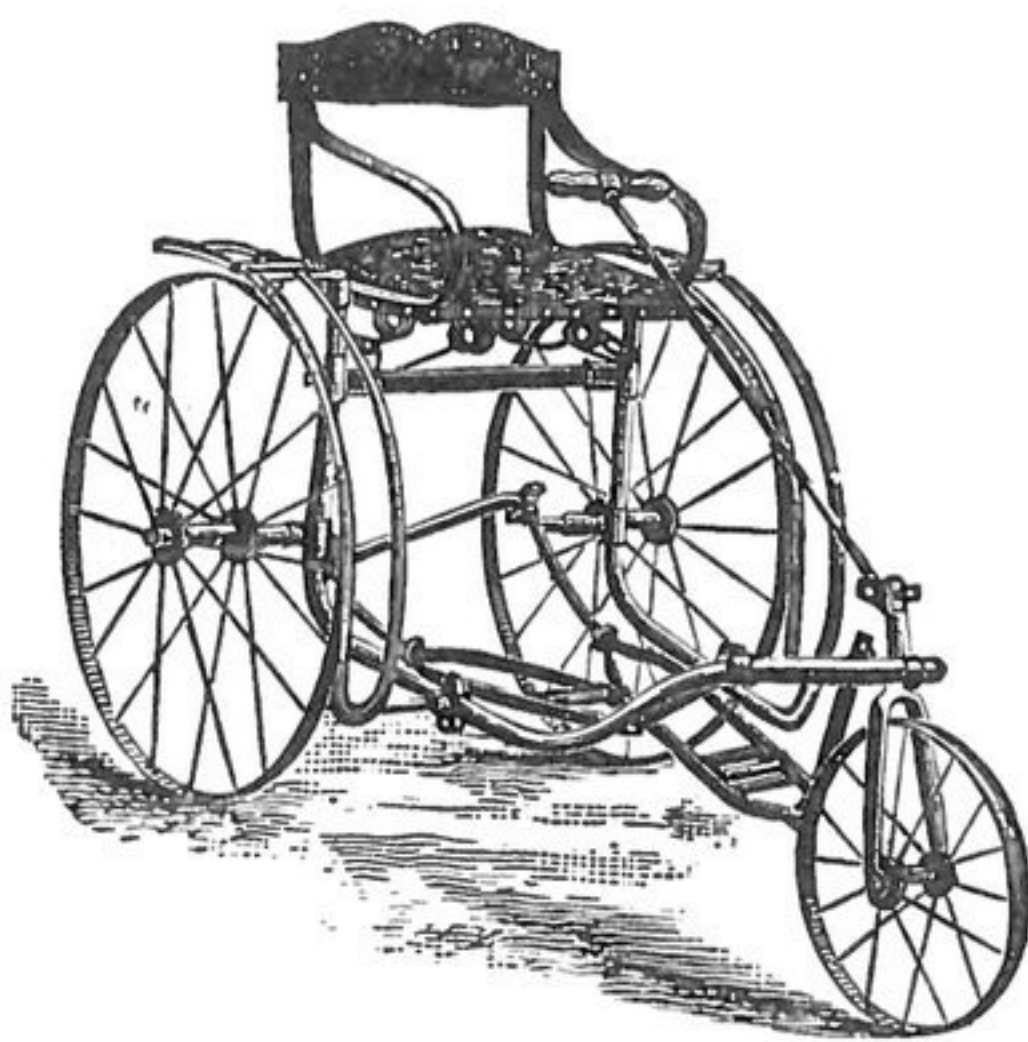
*Our Tricycles the Only Machine ever Recommended by Physicians for Ladies and Girls of a Delicate Constitution.*

### THE BUFFALO TRICYCLE CO.

Manufacturers of Ladies' and Girls' Tricycles, Ladies' and Boys' Safety Bicycles, Etc., Etc.

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As Agent for Advertisers instead of Papers, I obtain the Best Rates Possible for my Customers.

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WITH WHICH THIS PAPER IS PRINTED  
IS MADE BY THE  
**QUEEN CITY PRINTING INK CO.**  
CINCINNATI, O.



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BUY THE BEST.

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**AMERICAN INJECTOR CO.,** NO. 175 Larned St., West, **DETROIT, MICH.**





PUBLISHED EVERY MONDAY. OFFICES: { Corner Pearl and Seneca Streets,  
Buffalo, N. Y.  
McFAUL & NOLAN, - - - PROPRIETORS  
THOMAS MC FAUL, JAMES NOLAN.

#### SUBSCRIPTION.

In the United States and Canada, postage prepaid, \$1.50 Per Year, in advance; remit by Postal Order, Registered Letter, or New York Exchange. Currency in un-registered letter at sender's risk.

To all Foreign Countries embraced in the General Postal Union, \$2.25 Per Year, in advance.

Subscribers can have the mailing address of their paper changed as often as they desire. Send both old and new addresses. Those who fail to receive their papers promptly will please notify at once.

#### ADVERTISING.

Rates for ordinary advertising made known on application.

Advertisements of Mills for Sale or to Rent; Partners, Help or Situation Wanted, or of a similar character One cent per word each insertion, or where four consecutive insertions are ordered at once, the charge will be Three cents per word. No advertisement taken for less than 25 cents. Cash must accompany all orders for advertisements of this class.

Orders for new advertisements should reach this office on Friday morning to insure immediate insertion. Changes for current advertisements should be sent so as to reach this office on Saturday morning.

#### EDITOR'S ANNOUNCEMENTS.

Correspondence is invited from millers and millwrights on any subject pertaining to any branch of milling or the grain and flour trade.

Correspondents must give their full name and address, not necessarily for publication, but as a guarantee of good faith.

This paper has no connection with a millfurnishing house and aims to represent the trade without prejudice, fear or favor.

Address all communications

**THE MILLING WORLD,**  
BUFFALO, N. Y.

Entered at the Post Office, at Buffalo, N. Y., as mail matter of second-class.

#### SITUATIONS WANTED.

Advertisements under this head, 25 cents each insertion for 25 words, and 1 cent for each additional word. Cash with order. Four consecutive insertions will be given for the price of three.

#### SITUATION WANTED.

Head miller with over 20 years experience want to make a change this spring. Address, A. MILLER, 67 Weaver Alley Buffalo, N. Y. 4t

#### SPECIAL ADVERTISEMENTS.

Advertisements of Mills for Sale or Rent, Partners Wanted, Machines for Sale or Exchange, etc., etc., cost 1 cent per word, for one insertion, or 3 cents per word for four insertions. No order taken for less than 25 cents for one insertion, or 50 cents for four insertions. Cash must accompany the order. When replies are ordered sent care of this office 10 cents must be added to pay postage.

#### FOR SALE.

Water-power grist and feed mill for sale, at wharf and railroad, near New York. Established business, \$4,000. J. W. ATWATER, 150 Broadway, New York. 1720

#### FOR RENT.

Clinton Mills, at Black Rock, Buffalo, for rent on reasonable terms, recently repaired and put in good order. Apply to CHAS. DANIELS, over 311 Main Street, Buffalo, N. Y. 6tf

#### SITE FOR A STEAM FLOURING MILL.

A first-class site for a Steam Roller Flouring Mill at Grant, Ashland P. O. Mich. Correspondence solicited by the GRANT IMPROVEMENT ASSOCIATION, L. E. Mills, Cor. Sec'y. 2326

#### WANTED.

A company being formed with large capital to operate flouring mill in vicinity of Washington and Baltimore, require a practical miller and first-class manager, who can command ten to twenty-five thousand dollars. For particulars address, HON. CHAS. S. BAKER, House of Representatives, Washington, D. C. 2326

#### FOR SALE.

A cheap and desirable mill property, consisting of a Grist Mill, Saw Mill, two dwelling houses and all other necessary buildings. The mill has a good custom trade, nicely situated in the borough of New Buffalo, Perry County, Pa. For full particulars call on or address JEFFERSON WADE, New Buffalo, Pa. 232

#### MILL MACHINERY FOR SALE.

One No. 0 Standard Combined Separator, Smutter and Brush Machine; new, best make.  
One 20-Inch Under-Runner Portable Mill, French Buhr Stone, capacity 10 to 12 bushels per hour; new, best make.  
One 14-Inch Vertical Feed Mill; best make, new, a bargain.  
One No. 6 Dustless Separator; new, a bargain.  
One No. 1 Full Rigged Combined Dustless Separator; new, a bargain.  
Four Corn Cob Crushers, right or left hand, driven from above or below, best make; capacity 40 to 60 bushels per hour.  
Three No. 1 Corn Shellers, capacity 200 to 300 bushels per hour; new.  
One No. 2 Purifier. New. Best make. A bargain.  
One 20-Inch Portable Mill.  
One 18-Inch Double Gear Portable Mill.  
For particulars address, FRANK SMITH, care of THE MILLING WORLD, Buffalo, N. Y. 5tf

#### WANTED, TO RENT.

A good Custom Mill, in a good grain section. Steam or water power. Address, MILLER, P. O. Box 170, Pocomoke City, Worcester County, Md. 252

BRITISH millers have ceased to "jubilate" over the depression in American milling that so exhilarated them two years ago. They mistook one swallow for a spring and one short and bad wheat crop for a permanent disaster. They will understand American matters better as time goes on. They will need the help of the American millers for a long time yet.

BREADSTUFF exportations for the present fiscal year begin well. During July, 1890, the total value of the exports was \$10,733,669, against \$9,806,945 in July, 1889. For the first seven months of 1890 the total is \$92,773,352, against \$67,036,654 for the same months in 1889. The wheat grain exports in July of this year were 4,366,554 bushels, worth \$4,000,918, against 3,241,395 bushels, worth \$2,729,363, last year. The wheat flour exports in July of this year were 725,426 barrels, worth \$3,298,823, against 838,798 barrels, worth \$3,962,592, last year. The July total of wheat grain and flour this year is \$7,299,741, against \$6,691,955 in July of last year. The other lines show as follows: Barley for July, \$17,057, against \$23,325; corn \$2,979,137, against \$2,830,571; corn-meal \$96,410, against \$80,923; oats \$209,806, against \$40,767; oatmeal \$62,263, against \$42,350; rye grain \$69,255, against \$97,054. At this writing the indications point to a European demand for American breadstuffs that will tax the American supply very closely to its full powers.

EVIDENTLY our old friend J. Murray Case, now living in London, England, has imbibed the idea that the British millers will find more profitable occupation in the future than American millers. That is the theory of his paper presented at the Edinburgh meeting of the National Association of British and Irish Millers, which we reprint. How much reason is there for thinking that theory correct? Conceive the American supply of wheat and flour cut off from England. What would happen? English millers could, as it is so often boasted, "draw upon the whole world for wheat." Would that enable them to supply the British demand? They have been drawing on the whole world for years, but they have been obliged to use American grain and flour to carry their other grain and flour into consumption. Without the American strengthener, what will they do with their nasty, thin and weak wheats? Would it be possible for them to rake the world over, outside of the United States, and gather up from 100,000,000 to 150,000,000 bushels a year of good, sound, strong wheat that would be able to stand alone when ground singly? Such wheat is grown in Canada, but how much and how reliably can Canada offer? In Austria-Hungary, in Russia, in the Argentine Republic, and elsewhere in small quantities, but how much reliance can be placed upon those sources of supply? It is not easy to see permanent profits ahead for English flour-makers. With them there is always the temptation, the necessity, to mix good wheat with poor. In that way they make a profit, so long as the supply of good American wheat holds out. Take that from them, and they would be wallowing in an ocean of inferior grain in which neither profit nor pleasure could be found. It seems to us that it is more reasonable to look for greater and more stable profits in American milling, instead of less profits, as home consumption increases and shuts off foreign demand. It is notorious that our export business is charged with being reasonable for the low prices of wheat flour for several years. Our exporters compete with the millers of countries in which production costs are lower than here, and the influence of their competition is naturally felt on home prices. With that competition out of the way, prices would settle on a firmer foundation, the basis of an enormous and constantly increasing consumption at home. Mr. Case makes out a strong case for the British miller by taking an intensely one-sided British view of the situation. Should the British public ever fall into the hands of the British millers completely, that public will have to be content with very common bread, or else those millers will have to improve very greatly upon their present modes of flour-making.



## BRITISH AND IRISH MILLERS.

Edinburgh, Scotland, was the place of the annual convention of the National Association of British and Irish Millers for 1890. Over 100 members were present. The weather was bad. The convention was a success. The meeting opened in the Merchant Company's Hall on Tuesday, July 29. Mr. Bailie Turnbull welcomed the visitors to Edinburgh. President R. H. Appleton, in his opening address, spoke of the value of frequent meetings and referred to German and American competition in milling. He outlined the past year's work of the association, mentioning the death of members, the rating of machinery, the question of insurance, the freight rates on railways, wheat contracts, and other questions of interest. He asserted that India can grow wheat at 6 shillings a quarter, against 13½ shillings in Dakota, but that it is necessary to enforce the cleaning of the Indian grain. He touched upon technological examinations and improved seed wheat, and suggested a special milling exhibition, like that of 1881. The 12th annual report of the association was read and adopted. This report shows the death of five members since the convention in Paris in 1889. Local associations are said to have disappeared totally, and it was suggested that steps be taken to resuscitate them. The report states that the membership of the National Association enrolls "barely more than 4 per cent. of the master-millers in the country." Of the members, England and Wales furnish 86.8 per cent., Ireland 7.2 per cent., and Scotland 6 per cent. The report treated the topics of fire insurance and technological examinations. Indian wheat was a conspicuous topic.

During the discussion of the report, Mr. Seth Taylor said that a wheat contract was a mutual affair, and he was afraid that, if millers had full liberty to reject wheats, sellers would not be able to live at all, and finally the business would be restricted to the hands of a few, and millers therefore would have to pay much more for their wheat. As a member of the committee of the London Corn Trade Association, he assured them that buyers' interests were really very strongly considered and put forward. Two years ago a 2-per-cent. clause was suggested, but not passed; but it was subsequently passed that if the wheat was not within 3 shillings per quarter of the sample the buyer had power to reject. This was entered in the minute-book, although not appearing on contracts. Referring to American rings, he thought they did more harm to American millers than to British, for they (American millers) had no other wheats to fly to. Cleaner Indian wheats would be gladly received, but he was afraid that the establishment of wheat-cleaning on the other side was not desirable, because English millers should in any case have to clean it again, and the increased original cost of the wheat would be against the millers' interests. The financial report showed a balance of £61 11s. 9d. in the treasury. H. Robinson was re-elected treasurer, H. R. Perry auditor, and J. F. White president. All the elections were unanimous. The members of the Council elected were the following: S. M. Soundy, Reading; Seth Taylor, London; J. Westley, Northampton; S. Smith, Sheffield; J. Aizlewood, Sheffield, and H. J. Parnall, Newport. This closed the work of the session. The remainder of the day was passed at the exhibition, where the visitors were photographed in a body.

The Wednesday meeting opened at 10 a. m. J. W. Rush read a paper on "The Wheat Crops of the World and Wheat Values," which was a valuable essay on the subject. After a spirited discussion of this paper, A. Steiger presented an able essay on "Roller Milling in Small Mills." Both these papers will appear in THE MILLING WORLD. Much discussion followed the reading. J. Murray Case, of Columbus, Ohio, who is living in England, presented a paper on "American versus British milling." Owing to want of time, Mr. Case's paper was "taken as read." This interesting essay is as follows:

GENTLEMEN: I have been invited to read a paper on milling before your honorable body, and in accepting the invitation I have found it difficult to decide what special subject to treat, for the reason that the science of modern milling, up to its present development, has been so thoroughly discussed in milling journals and former papers read before your

conventions that there is little new to say. For this reason I have thought not to dwell upon the science of milling, or the merits and demerits of existing milling machinery and systems, but instead will attempt to draw a comparison between American and British mills, and their relative advantages in location. In discussing this delicate question, I hope you will not anticipate a cyclone of "Yankee boast," for, like the Duluth wheat, that has lain long in contact with the moist bosom of your native-grown varieties, I have been in your damp climate a sufficient length of time to have my native American proclivities somewhat "tempered," and will attempt to speak from a disinterested and unbiased standpoint.

On my arrival in this country, my first impressions were that this climate was not so favorable to milling as our own, but on investigation and comparison of results in mills with which I have had something to do in programming, both in this country and America, I find the reverse to be true. With precisely the same system, except as to numbers of cloth, and operating upon substantially the same wheats, the results will be better in this climate than in either Canada or the States. The damp atmosphere tempers the hard varieties of wheat and toughens the bran by a gradual process, thus insuring a whiter flour and less percentage of low-grade, and it also enables the miller to produce a clear flour over a much coarser silk, and to dust the middlings over at least two numbers coarser mesh, thus permitting them to be purified with less waste in the sieve room. Throughout the major portion of the States and Canada we would use numbers 12, 13 and 14 silk for flour, while you may use numbers 9, 10 and 11, and produce flour equally well dressed. If we undertook to make flour on number 9 silk, except that from purified middlings, the product would pass inspection only as third grade, or family. I have also noticed that in English mills there is less dust floating in the atmosphere than in American mills. The dust instantly absorbs a sufficiency of dampness from the air to cause it to settle quickly. This insures less danger of explosion and should operate as an element to reduce insurance.

The dense population of Great Britain enables the miller to market his products with much less expense of freight, which is a very great item in his favor; and your system of tri-weekly markets, at closely contingent points, whereby the miller may buy and sell and keep posted with the tendency of supply and demand and the probable rise and fall in prices, are material advantages not possessed in America, only in the large commercial centers. The British miller can buy wheat at Duluth as cheaply and of as good a quality as can be bought by a Minneapolis miller. It is not a matter of location of mills that operate to control entirely the drift of the great wheat bulk of the Northwest. With a strong combination of English millers and capitalists, who might control, to a certain extent, favorable lines of ocean and railroad transportation, Duluth wheat may be delivered here much cheaper than individual mill-owners can send flour; and, in view of the fact that bran and finished middlings are worth in this market nearly or quite double what they usually are in Minneapolis, this forms a very considerable item in favor of Great Britain for milling Duluth wheats. The item of labor in American mills is higher than in Europe, but fuel averages cheaper, so we may fairly conclude that the expense of production is about equal. We may add to these advantages, now apparently possessed by the British miller, the fact that flour milled here, of equal quality to that milled in America, will have a natural local demand which foreign flours must superficially produce, and consequently the disposition of product is easier and less expensive, and prices are more readily sustained; the business being legitimately under the immediate control of its best business managers, while trade sustained by foreign importation is necessarily done at "arm's length," through local representatives, and an arm stretched across the Atlantic Ocean may occasionally grow weary from the weight at this end.

From these facts, at least apparent facts to my mind, it would appear to me that if an English syndicate can operate a Minneapolis mill for supplying the British market, and make money, with the same wheats and an equally good system of milling, the British millers ought to make a "pile." In taking this view of the situation, my friends across the water may look upon it as un-American, but, like Lord Salisbury, I am of the opinion that we can not claim or take all of Africa, and that we, as a country, will be more greatly benefited by giving up the "Heligoland" of flour exportation, and thereby secure the "600 miles square" of now undeveloped wheat-growing country for the exportation of wheat to supply the British market. A constant and steady demand for the surplus wheat products of the great Northwest is of far more value to the United States and Canada than an insecure and fluctuating flour exportation, that may drop off at any moment when a favorable wheat breeze may blow over Britain from Australia, India, Africa or Russia. When British millers get in the habit of using extensively our Northwestern wheats and have established a trade upon flour produced from such wheats, they will be likely, in order to keep out American flours and sustain the excellency of their brands, to continue the use of these wheats in constantly increasing quantities, thus enabling America to dispose of her surplus wheats to much better advantage than the exportation of flour, and so I do not regard my position as an unpatriotic one.

In relation to the comparative advantages of the two countries in location for permanently profitable milling, I am compelled in candor to admit that, viewing the situation from every standpoint, Great Britain would seem to have the advantage. Her free-trade system gives her the opportunity of importing wheat from any country, without the burden of import duties, and she has the whole wheat-growing world to draw from. Her area extends from Duluth to California, thence to Australia and



New Zealand, thence to Africa, Egypt, India and Russia, and so she belts the world, and in her well-organized system of commerce she has the advantages of cheap ocean freights; and we can scarcely conceive of any one season in which some one of these points will not offer favorable advantages for wheat supply. The United States, on the other hand, with her protective tariff, which keeps out all foreign wheats, must depend upon her own production, and a general failure in the wheat crop or extreme shortage of wheat always results in the enforced idleness of many flour-mills, during which times our Indian maize meal supplies the deficiency. It is apparent that Minneapolis must draw her supply of wheat from a district contingent to Minneapolis; she can not afford to ship it from California or Tennessee, much less from India or Australia, so they are subject to dangers, and the finger of a frosty night may stop their wheels. But the most discouraging outlook to the great overgrown mills of the States is that their field of operation for the disposition of products is constantly being narrowed down by the erection and reconstruction of small mills to the roller system throughout the interior country. The time was, seven or eight years ago, when scarcely a village in the entire United States and Canada but was supplied with roller flour from these great mills. That was their harvest time. They made enormous profits, and foreign shipment was unnecessary. The small mills throughout the country were forced into comparative idleness. The big fellows had it all their own way, and Minneapolis was the scene of banqueting and Belshazzar's feasts among the mill-men.

The days of the small mills were thought to be numbered, but the time came when the system of roller-milling was greatly simplified and shortened. Then commenced the revolution among the small mills. They were rapidly changed over to the improved system, and, with the simplified process, they were enabled to make a flour fully as good as from the more elaborate process. Many stone-millers for a time fought against this innovation until the rats took possession of their mills, when they, too, were compelled to change, until now, there is scarcely a merchant mill in the United States or Canada, large or small, but is operating upon the roller system. These small mills, ranging in capacity from one to ten sacks per hour, are enabled to furnish all of the flour required for local demand. This local trade once secured by local mills, they have held it, and as a result, during the times when the great Minneapolis and St. Louis mills and those of other points were running on half time and losing money, these little and formerly ignored mills were rolling along and doing a good business, the local trade taking the entire output. Thus the large mills have been forced to confine their sales principally to the few great eastern cities and to foreign exportation. It will thus be apparent to the British miller that, should wheat imported from Russia, India, or any of the English colonies be at any time very much cheaper than American wheats, the large mills of America must necessarily curtail their outputs or run at a loss. Thus it would appear that, so far as the large mills are concerned, the advantages of location are in favor of Great Britain.

Very few of the small mills of this country, comparatively speaking, have changed to the improved system. This is due, in my judgment, to three causes. First, An Englishman or Scotchman does not change his mind as quickly as an American. (An Irishman may.) Second, The British engineers have not, until recently, formulated a system sufficiently simple for the limited water-powers, or one that did not pull too heavy on the pocket-book. Third, A very large number, probably the majority, of these small water-power mills are owned by the landed nobility, the lords and the gentlemen, and the widows and the orphans, and leased by the millers for a term of years. Such mills will necessarily be slow to change, because it is hard to change the lords, and some practical poet has said, "The mill of the lords grinds slow." But they must ultimately change or prove unprofitable, and the water power and favorable location of many of these mills make them too valuable to remain long idle. They must ultimately all change to rollers, but many of the lords will have to go through the "sweating process" before they fully realize this necessity. England and Scotland are going through precisely the same evolution in milling that we have passed through in the States, only they move slower. We have "cyclones" over there, while you only have a brisk breeze; we can't run a windmill in the States; we use our wind up all at once and then have a dead calm. Some of the large mills of England and Scotland are still delusively clinging to the millstones; but in five years from this time I predict that it will be impossible to operate a merchant mill in Great Britain on the millstone system without loss. The small water-power mills on these great landed estates will become comparatively idle. Millers will decline to renew their leases. They can not afford to pay the rents. Many of them now are running at a loss. When they are changed to the roller system, which they inevitably will be, the small miller will be able, through personal influence and the return of old customers, to secure a steady demand for his limited output.

But the large miller will not feel the effect of the small miller to that extent that they have in the States, because the small miller in this country, owing to the limit of power, will not increase his former output, but will only retrieve the custom which he has lost. The further erection of new mills of small capacity in Great Britain will be an inconsiderate item, from the fact that all the available water-power is already occupied, and from the further fact that numerous small mills, in favorable locations, will be, and are now, for sale at prices for which they could not be erected. On the other hand, in the States small mills will continue to spring up in the newly-developing country sufficient to supply the increase in population. The milling capacity of Great Britain is probably not in excess of the requirements of its population, while the

present milling capacity in the States is far in excess, probably nearly double the demands, for home consumption, and so I may say that, in this important aspect, British millers are in a more healthy condition than their competitors across the water. What is required of the British miller is to make a home flour that will keep out foreign flour, and to do this you want plenty of American wheat. The London expression of "'Aff and 'Aff" will meet the situation, "'Aff" American and "'Aff" English. It is true, however, that American flours of excellent qualities can often be bought in the British market-places at a price less than the value of the wheat that produces it; but this only proves the truth of my former statements, that milling in the States is overdone, and flour is sometimes forced into this country against a natural demand. Hence, delay in sales; financial pressure; big acceptances, like owl's eyes in the dark, stare from the bank window, and then a cablegram, "Sell!" But this is unnatural and transitory. It is not within the range of legitimate commercial business, and millers who make such sacrifices are not likely to do so long; Minneapolis has not enough of John Bull's money to do it with. They must limit their output to legitimate and profitable demand.

Between the machines built and used in the United States and those in Great Britain there is little to choose. The engineers of both countries build good machines. In this country the centrifugal reel is used, not only for flour-dressing, but also frequently for dusting coarse middlings. I think the latter use a mistake for many reasons. It produces too much flour, while the middlings are mixed with impurities, and, necessarily a dark flour, it increases the quantity of break flour, and consequently reduces proportionally the output of patent flour, and besides this, coarse middlings on a centrifugal reel wear the cloth rapidly. An inter-elevator bolt is by far the better machine for the purpose. In the States these bolts are used for all classes of scalping and bolting except on the last productions and soft bran flour. But in this climate the centrifugal is preferable for general dressing, after the material has been properly scalped on an inter-elevator bolt. Its severe beating action is necessary to break up the flakes produced from your soft wheats, which flaking of the material we seldom, if ever, have in American milling.

The English system of single conveyors I regard as inferior to the American system of double conveyors. The double conveyor gives the miller perfect control of his mill. It enables him to load every purifier and reel to do the best work. Every reel, centrifugal and purifier in an American mill is provided with double conveyors, and the adjustment of the cut-off slides to suit different varieties of wheat, variation in weather and so forth constitutes the principal duties of the expert miller. By this means a uniform flour is insured. In this country double conveyors, in my mind, are even more a necessity than in the States, especially in your large mills, that operate upon a great variety of wheat. In the small mills that use principally English wheat the double conveyor is not absolutely required.

As to the breaks, reductions and systems of separations the two countries are drifting towards each other. They are both simplifying and shortening. A good English expert would make a good American expert, except he must learn to use the double conveyor on all reels, centrifugals and purifiers. An American miller would not run a mill without them. In fact he could not and at the same time make a flour that would uniformly pass the severe American inspection for fancy flours; and if it did not pass it would be marked down in price about four shillings per barrel. The American fancy requires a clearer dressing of the flour than is demanded in the English market. Upon the whole, first-class English and American mills will compare favorably with one another, the Americans probably being a step or two in advance, due to the more perfect control of the mill by their system of double conveyors and the use of the inter-elevator for scalping and dusting middlings. You will excuse me for this part of a grain, the "germ," which is too oily to be "tempered," but you can scarce expect a thoroughbred American wheat-berry to grow soft on English all over. But I have attempted to present an unbiased and unprejudiced statement of what appears to me to be the true relationship existing between the British and American millers, when looked at from both sides of the water. And in this view, to sum up the aggregate of circumstances that will sustain permanently profitable milling, the British miller, I regret to say, appears to have the advantage.

A scheme for a new mutual fire insurance association for millers was presented by S. M. Soundy. The fire insurance committee were re-elected, with power to add to their number. The convention wound up with an excursion and the annual banquet at the Waterloo Hotel, which was attended by nearly 200. On Thursday the visitors went on an excursion.

#### COTEMPORARY COMMENT.

The executive committee of the Millers' National Association should try in some way to put a quietus upon its "hoodoo," the misnamed "Northwestern Miller." It has done more in the past and is doing more to-day to retard the progress of the Association than all its open and avowed enemies put together. A pirate of the deepest dye, having lost all semblance to a real milling paper, and likewise its hold upon the favor of the great mass of millers, it still keeps



its false colors to the breeze with the hope of some day again becoming the organ of the Association and thereby securing a fresh leverage upon the dispensers of advertising patronage throughout the country. Only a few are aware of the desperate efforts made by its manager to secure the secretaryship of the Association at the Milwaukee meeting last year, and of his nicely concocted scheme to corral enough votes at the recent convention at Minneapolis to again make his paper the official organ. A few of the members who had been doped by his taffy until their heads were turned, were actually bent on the suicidal act; but, fortunately for the Association, the wisdom and good sense of the majority was against it.—*Modern Miller*.—And yet, Brother Hall, it is this association, so devoted to the Minneapolis "pirate of the deepest dye," that you are touting for in a second-fiddle role. You seem not to be able to understand, what all the other milling journalists, with the Milwaukee exception, understand, that the association cares not a rush for any publication but this same "pirate." The "Yahoo" accurately represents the Millers' National Association, and both ignore the millers totally. The millers understand the situation, if you do not, and they are staying out of the National with phenomenal unanimity. You and Brother Cawker may please yourselves by playing second-fiddle to the "Yahoo," but the millers are not "in it" with you. The National is just as much of a "pirate" as its favorite organ is. Catch on?

Tucson, Arizona, has been isolated by floods. The cactus and sage-brush crop of Arizona will be seriously impaired. The mortality among tarantulas, "Gila (Hela) Monsters," "Track Walkers" and other animal pets of the country is said to have been enormous.—*Chicago "Daily Business."*

It will be remembered that the most conservative estimates of the North-West crop last year placed the average yield at 15 bushels per acre. As a matter of fact it was under 9. This year, in round numbers, we find people speaking glibly of an average yield of 27 bushels. Is this probable? We fear not. If the crop of Manitoba and the North-West reaches an average of more than 16 bushels per acre we shall be very agreeably surprised. At all events, it is far better to be on the safe side and to under-estimate rather than over-estimate the crop. But our friends in the North-West do not think so. They persist in claiming a yield of 20,000,000 bushels for Manitoba alone, a province which the official report informs us had but 746,000 acres sown to wheat last spring, and they accuse us of jealousy and pessimism if we decline to swallow these figures in their entirety.—*Montreal "Journal of Commerce."*

#### UNITED STATES RAILROADS.

Railroad interests in the United States have assumed magnificent proportions. According to the advance sheets of Poor's "Manual of Railroads" for 1890, the railroad business in 1889 was better than in 1888 by \$20,000,000 net increase, despite the serious losses by the great floods of last year. Compared with 1888, gross earnings increased \$43,480,326, to which increase the elevated railroads contributed \$1,245,478, the remainder, \$42,234,848, being the increase upon the surface roads, made up by increases of \$8,284,640 in passenger earnings, \$27,329,830 in freight earnings, and \$6,620,378 in mail, express and other miscellaneous earnings. The most marked increases in earnings were in the States west of the Mississippi and east of the Rocky Mountains. In the Middle States the losses in gross earnings suffered by the coal carrying roads kept the increase for the section down to a narrow margin of \$4,500,000, while the whole South fails to show any gain of consequence. In the latter case this failure to show expected results is due almost wholly to the inability of the vast number of new roads which have recently been brought into operation to report for a full year, as the date of their several openings in nearly every case antedated the close of their fiscal year only by a few months. In consequence the figures of actual traffic statistics cover only the part of the year during which the several roads were operated in 1889.

The cost per mile of all roads making return, as measured by the amount of their stocks and indebtedness, equaled

\$60,309, against \$60,732 for 1888. In 1885 the total capital investment of the railroads of the United States, measured by the amounts of their share capital, funded and unfunded debts, was \$7,852,533,179. Their gross earnings in that year equaled \$772,568,833, or 9.9 per cent. on capital invested, while net earnings amounted to \$269,493,931, being 3.4 per cent. on capital invested. In 1888 the total investment was \$9,369,398,954; gross earnings were \$960,256,270, equal to 10.2 per cent. of investment, and net earnings \$301,631,051, or 3.2 per cent. on capital. In 1889 the total investment was \$9,680,942,249; gross earnings were \$1,003,736,596, equal to 10.4 per cent. on investment, and net earnings \$322,284,986, or 3.3 per cent. on capital. According to the records from year to year there is at all times a large extent of new railroad mileage not fully open for traffic as shown in the following statement:

	FISCAL YEAR ENDING IN						
	1883.	1884.	1885.	1886.	1887.	1888.	1889.
Total mileage.....	120,552	125,152	127,729	133,606	147,999	154,276	160,544
Miles worked.....	110,414	115,704	123,320	125,185	137,028	145,387	152,745
Miles not worked.	10,138	9,448	3,409	8,421	10,971	9,889	7,999

The following statement shows the increase in share capital, funded and unfunded debts of the railroads during the past ten years, 1880 to 1889:

past ten years, 1880 to 1889:		Stock		Funded debt.	Funded debt
	Capital stock.	increase.		increase.	increase.
1880.....	\$2,708,673,375	\$313,026,082		\$2,530,874,943	\$211,385,771
1881.....	3,177,375,179	468,701,804		2,878,423,606	347,548,663
1882.....	3,511,035,824	333,660,645		3,235,543,323	357,119,717
1883.....	3,708,060,583	197,024,759		3,500,879,914	265,336,591
1884.....	3,762,616,686	54,556,103		3,669,115,772	168,235,858
1885.....	3,817,697,832	55,081,146		3,765,727,066	96,611,294
1886.....	3,999,508,508	181,810,676		3,882,966,330	117,239,264
1887.....	4,191,562,029	192,053,521		4,186,943,116	303,976,786
1888.....	4,438,411,342	246,849,313		4,624,035,023	437,091,907
1889.....	4,495,099,318	56,687,976		4,828,365,771	204,330,748
Total.....		\$2,099,452,025			\$2,508,876,599
		Unfunded		Unfunded	Total
		debt.		debt, increase.	increase.
1880.....		\$162,489,939		\$ 5,608,887	\$530,020,740
1881.....		222,766,267		60,276,328	876,526,795
1882.....		270,170,962		47,404,695	738,185,057
1883.....		265,925,285		*1,245,677	461,115,673
1884.....		244,666,596		*24,258,689	198,533,272
1885.....		259,108,281		14,441,685	166,134,125
1886.....		280,673,814		21,565,533	320,615,473
1887.....		294,682,071		14,008,257	510,038,564
1888.....		306,952,589		12,270,518	696,211,738
1889.....		357,477,160		50,524,571	311,543,295
Total.....				\$200,596,108	\$4,808,924,732
*Decrease.					

\*Decrease.

The following statement shows the volume of freight traffic on all the railroads of the United States during the eight years, 1882-1889:

	Tons freight moved.	Tons freight moved one mile.	Av. rate per ton per mile.	Av. haul per ton.
	Tons.	Miles.	Cents.	Miles.
1882.....	360,490,375	39,302,209,249	1.236	109.02
1883.....	400,453,439	44,064,923,445	1.236	110.04
1884.....	399,074,749	44,725,207,677	1.124	112.07
1885.....	437,040,099	49,151,894,469	1.057	112.46
1886.....	482,245,254	52,802,070,529	1.042	109.49
1887.....	552,074,752	61,561,069,996	1.034	111.51
1888.....	590,857,353	65,423,005,988	0.977	110.72
1889.....	619,137,237	68,604,012,396	0.976	110.80

Following is a statement showing the number of miles of steel rails and iron rails and the percentage of steel rails to the total track in the United States, for the years 1880-89 inclusive:

	Miles Steel rails.	Miles Iron rails.	Total Miles.	Per cent. Steel of total.
1880.....	33,680	81,967	115,647	29.1
1881.....	49,063	81,473	130,536	37.5
1882.....	66,691	74,269	140,960	47.3
1883.....	78,491	70,692	149,183	52.7
1884.....	90,243	66,254	156,497	57.6
1885.....	98,102	62,495	160,597	61.0
1886.....	105,724	62,324	168,048	62.9
1887.....	125,459	59,588	185,047	67.7
1888.....	138,516	52,981	191,497	72.3
1889.....	151,723	51,064	202,787	74.8

In the following statement the statistics of passengers carried, passenger mileage, average distance each passenger



and average rates received per passenger per mile on all the railroads of the United States, are shown for the eight years from 1882 to 1889 inclusive:

Year.	Pass'rs Carried. No.	Passenger Movement. Miles.	Average Rate	
			Distance per Passenger. Miles.	per Pass. per Mile. Cents.
1882.....	289,030,783	7,483,059,934	25.89	2.514
1883.....	312,686,641	8,541,309,674	27.31	2.422
1884.....	334,570,766	8,778,581,061	26.24	2.356
1885.....	351,427,688	9,133,673,956	25.99	2.198
1886.....	382,284,972	9,659,698,294	25.27	2.181
1887.....	428,225,513	10,570,306,710	24.68	2.276
1888.....	451,353,655	11,190,613,679	24.78	2.246
1889.....	495,124,767	11,965,726,015	24.17	2.170

Following is a statement of the rolling-stock of railroads in the United States:

	Locomotive engines.	Revenue Cars			
		Passen- ger.	Baggage, Mail & Ex.	Freight.	Total.
1882.....	22,114	15,551	5,566	730,451	751,568
1883.....	23,623	16,889	5,848	778,663	801,400
1884.....	24,587	17,303	5,911	798,399	821,613
1885.....	25,937	17,290	6,044	805,519	828,853
1886.....	26,415	19,252	6,325	845,914	871,491
1887.....	27,643	20,457	6,554	950,887	977,898
1888.....	29,398	21,425	6,827	1,005,116	1,033,368
1889.....	31,062	23,465	7,184	1,060,164	1,090,813

In 1882 the average number of passengers carried per mile of railroad in operation was 3,018.5. In 1886 this average had increased to 3,054.7, and in 1889 it was further increased to 3,242.6. In the latter year the number of passengers carried was 71.2 per cent. greater than the number carried in 1882.

The total number of miles of railroad in the United States at the close of 1889 was 161,397, of which 5,751 miles were constructed during the year. The mileage of lines making returns of their share capital and funded and floating debts equaled 160,544, against 154,276 for 1888, the increase being 6,268, the rate of increase being 4.06 per cent. The share capital corresponding to the mileage completed at the end of 1889 equaled \$4,495,099,318, against \$4,438,411,342 in 1888, the increase equalling \$56,687,976, the rate of increase being 1.26 per cent. The funded debts of all the lines at the close

of the year aggregated \$4,828,365,711, a sum \$204,330,748 in excess of the total of 1888 (\$4,624,035,023), an increase of 4.4 per cent. The other forms of indebtedness of the several companies at the close of the year equaled \$357,477,160, against \$306,952,589 for 1888, the increase being \$50,524,576. The total share capital and indebtedness of all kinds of all the roads making returns equaled at the close of the year \$9,680,942,249, an increase in the year of \$311,543,295 over the total of 1888 (\$9,369,398,954), the rate of increase for the year being about 3.3 per cent.

*Good Housekeeping* for August 16 has an elaborate synopsis of an ancient cook-book, published in London more than 200 years ago, the recipes of which will make very interesting reading for the housewives of the present day; there are some good stories and general articles, an excellent paper on "The Hands and Gloves," and a department of "Woman's Work and Wages." It has some good verses, and is altogether creditable to the publishers—Clark W. Bryan & Co., Springfield, Mass.

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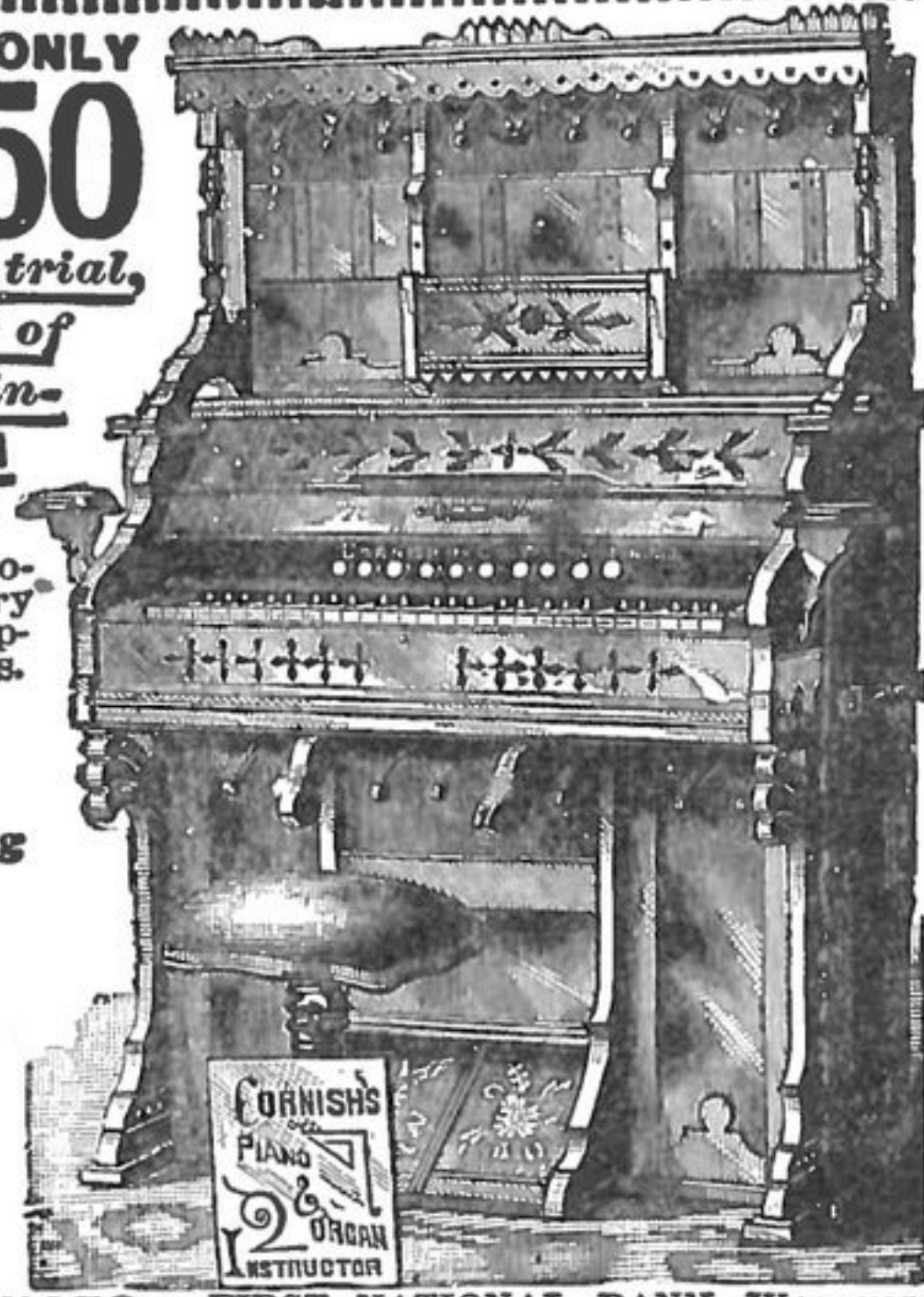
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# Practical Notes

**THE COST OF FIRING A GREAT GUN.**—A recent calculation shows that the cost of firing a 110-ton gun includes \$380 for 990 pounds of powder, \$435 for a 1,980-pound projectile, and \$17 for silk for cartridge, a total of \$832. But this is not all. The 110-ton gun can be fired but 95 times, and after that it becomes incapable of being used and requires repairs. Now, the cost of the piece being \$82,400, it is necessary to estimate the cost of wear at about \$868 for each shot, thus raising the cost of each charge to \$1,700.

## GENERAL NOTES.

A PARIS report states that the statement of the liquidators of the Panama Canal Company has been presented to the Tribunal of the Seine. According to the report the total expenditures of the company amount to \$262,600,000. The assets on March 3 were \$3,200,000.

### POINTS IN MILLING.

ANOTHER "automatically sprinkled" flour-mill gone up! Place, La Crosse, Wisconsin. Time, August 2, 1890. Cause, alleged spontaneous combustion. Real cause of fire unknown absolutely. Loss over \$300,000. Insurance \$160,000.

AGAIN I ask: What is the matter with the automatic sprinklers? The two large flouring-mills in Winona, Minnesota, were "sprinkled" risks, and, like the Freeman risk in La Crosse, they appeared to be all "risk" and no "sprinkle." The Freeman mill was a stone building, with thick walls and iron roof. It was loaded with barrels of water, hose, stand-pipes and 552 "automatic" sprinkler-heads scattered everywhere. The elevator was covered with corrugated iron. Water was abundant. Regulations about smoking and drinking were strict. Dust was properly cared for, with oily waste and other inflammable or spontaneously combustible materials. Every precaution seemed to be taken to prevent fire. Notwithstanding all this, the fine plant burned quite as quickly and as completely as though it were a frame plant, without sprinklers, without water connections, and managed by free and-easy smokers and tipplers.

INSURANCE men have recently been inclined to reduce rates on "sprinkled" risks, but a few more repetitions of the Winona and La Crosse conflagrations will probably call a halt in that line. I would like to know whether the sprinkling system, or apparatus, in the Freeman mill had ever been actually tested. Does any one know that it would work when it was put up? If it was really capable of "sprinkling" when put up, at what time, in what way, did it become incapable of working? The sprinkler manufacturers must toe the mark and answer these questions. I know a score of mill-owners who have been thinking about putting in sprinkler equipments, but the La Crosse incident will set them back. They do not understand why the claims of the sprinkler men are all one way, while all the performances of the sprinklers are the other way.

THIS fire, with its peculiar surroundings, emphasizes forcibly what I have frequently said in these columns concerning the value and the necessity of close, incessant watchfulness in and about a mill. This fire had a starting moment. At that moment it could have been stopped by a handful of water. The scheme of watching failed to cover that moment, and the disaster followed. The total loss is \$300,000, of which the insurance men will pay \$160,000, all out of the money contributed by other insured establishments, and the balance, \$140,000, the owners of the mill will lose. The insur-

ance companies could have hired two men, for \$1,000 a year, to patrol that mill from top to bottom every night for 160 years, for their share of the loss. The owners could, with their share of the loss, secure a patrol for 140 years. Such a patrol would have prevented the fire, regardless of the automatic sprinklers that failed to sprinkle.

MILLERS who depend upon automatic sprinklers for safety against fire, are very similar to millers who depend upon so-called automatic flouring-machinery for perfect work and satisfactory results. Both get left. Machines can never work automatically and perfectly until they are equipped with trained brains.

ANOTHER question suggests itself: In case these sprinklers in the La Crosse mill had worked, deluging the building from roof to basement, what would have been the market value of the contents? The elevator would be intact, but what of the mill? What would be, or could be, done with soaked grain-cleaners, smutters, scourers, roller-mills, buhr equipments, purifiers, bins, packers, belting, spouting and other parts not wholly metal? The ashes of the burned machinery are not very valuable, but how much more valuable would that machinery be after a thorough soaking? The only thing that would not be damaged by the water would be the stone walls. This consideration is not unimportant. A water-soaked middlings-purifier would be worth just about as much as one totally burned.

I BELIEVE the question of the efficacy and the commercial value of automatic sprinklers is yet an open question. I believe that the question of the efficacy and value of thorough inspection is a settled question, settled in favor of prevention over any sort of cure ever devised. The La Crosse incident confirms both of these views.

### HOW WHEAT IS ADULTERATED.

It is probable that various materials have been used at all times, in admixture with wheat flour, in the preparation of bread. In Greece the flour prepared from different roots was mixed with the flour from grain, while in Syria a meal made from dried mulberries was used for the same purpose. In Egypt it was a very common practice to add the flour obtained from peanuts to the breadstuffs. In Sweden, Lapland and Iceland they add the flour of various kinds of dried moss, and it is claimed that the bread prepared with the addition of Iceland moss is very nourishing and remains moist and fresh for many weeks. Dried and pulverized clay is often added to the wheat flour in North Germany; the clay contains considerable quantities of potash and aids the process of fermentation. Additions of flour from cassava, arrowroot, tapioca and sago are often used in America, and, on account of the very high nourishing values of these materials, there can be no objection to their use. As a curiosity, we may also mention that on the seacoast of the West Indies there is found a wild variety of barley (*Porphyra laciniata*), which is often collected, washed, sprinkled with oatmeal and baked. In bad years this product is used a substitute for bread.

### CATARRH.

#### CATARRHAL DEAFNESS—HAY FEVER.

##### A NEW HOME TREATMENT.

Sufferers are not generally aware that these diseases are contagious, or that they are due to the presence of living parasites in the lining membrane of the nose and eustachian tubes. Microscopic research, however, has proved this to be a fact, and the result of this discovery is that a simple remedy has been formulated whereby catarrh, catarrhal deafness and hay fever are permanently cured in from one to three simple applications made at home by the patient once in two weeks.

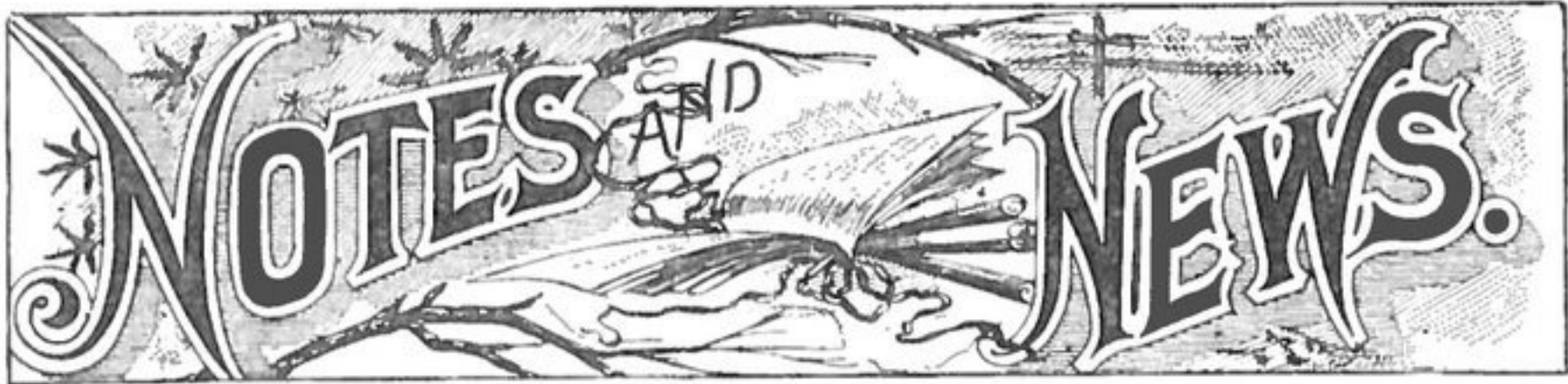
N. B.—This treatment is not a snuff or an ointment; both have been discarded by reputable physicians as injurious. A pamphlet explaining this new treatment is sent free on receipt of stamp to pay postage, by A. H. Dixon & Son, 337 and 339 West King street, Toronto, Canada.—*Christian Advocate*.

Sufferers from Catarrhal troubles should carefully read the above.



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Santo, Tex., men build a grist-mill.  
 Hanson Bros., grist-mill, Ewing, Mass., sold out.  
 W. R. Pipkin, Hatchie, Tex., rebuilt his grist-mill.  
 Neal Key, Shiloh, La., rebuilt his burned grist-mill.  
 Tripp & Tennant, Moretown, Vt., are completing their grist-mill.  
 The Jefferson Flouring Mill Co., incorporated at Jefferson, Oregon.  
 A. B. Croom, So. Washington, N. C., builds grist-mill at Croom Bridge.  
 Chas. Espenschied, flouring-mill, Hastings, Minn., is succeeded by Otto Doebler.  
 Richford, Vt., men have bought a site and will at once build a grain-elevator.  
 Ross & Willis, Greensboro, N. C., add flouring machinery to their grist-mill plant.  
 G. L. Searing's grain-elevator, Kalamazoo, Mich., was partly burned; loss \$20,000.  
 Jas. McMillan, of Baker & McMillan, flour-millers, Redwood Falls, Minn., is dead.  
 A. J. Roder, Midway, Tenn., is putting in rolls, furnished by The Case Mfg. Co., Columbus, O.  
 H. Gaston's grist-mill, near Spencer, Ind., burned with other property; loss \$6,000; no insurance.  
 W. McCathern, Waynesboro, Ga., wants machinery to increase the capacity of his grist-mill.  
 The Roanoke Navigation & Water Power Co., Weldon, N. C., build a 12,500-bushel grain-elevator.  
 Loudersville, W. Va., men incorporated the Loudersville Milling & Mfg. Co., capital stock \$4,100.  
 B. Davidson and others, Gibsonville, S. C., formed a \$10,000 stock company to build a roller flouring-mill.  
 The Case Mfg. Co., Columbus, O., have an order from C. C. Delaplane, Delaplane, Va., for 1 Case special purifier.  
 Woodward, Graybill & Co., Limited, flour-millers, Carlisle, Pa., dissolved. John D. Graybill continues the business.  
 The Case Mfg. Co., Columbus, O., have an order from Ong & Love, Angerona, W. Va., for 1 Case improved centrifugal reel.  
 C. Macdonald & Son's flour and corn-meal mill, Collingwood, Ont., Canada, burned on August 10; loss \$35,000; insurance \$22,000.  
 The Pullman oatmeal mill and elevator, Kensington, Ill., burned; loss \$45,000; insurance \$31,000; the owner is W. M. Druly, of Chicago, Ill.  
 The Buffalo Brewing Co., Sacramento, Cal., is putting in a No. 2 Hoover automatic scale, furnished by The Case Mfg. Co., Columbus, O.  
 Mackey, Nisbet & Co.'s flour-mill and cooperage, Fort Branch, Ind., burned; loss \$9,000; fire incendiary and destroyed other property valued at \$13,000.  
 The English syndicate controlling some of the Minneapolis mills has resumed negotiations for the Phoenix Flour Mill of Milwaukee under an old option. The consideration is \$400,000.  
 Summerton and Hadley, Windfall, Ind., have placed their order with The Case Mfg. Co., Columbus, O., for rolls, scalpers, flour-dresser, purifiers and other machinery for a 150-barrel full roller mill.  
 W. B. Shaphard and others, Opelika, Ala., have organized the Opelika Flour Mills, capital stock \$25,000; they have bought a site and will build a 300-barrel roller flour-mill. Machinery is wanted for the plant.  
 J. E. Burroughs & Co., Flint, Mich., are increasing their capacity and changing their bolting system to round reels. They have placed their contract in the hands of The Case Mfg. Co., Columbus, O., for all necessary machinery and supplies to complete the plant.  
 Boyd Bros., formerly of Olmstead, Ky., are erecting a new roller mill at Irvington, Ky. The contract has been awarded to The Case Mfg. Co., Columbus, O., who furnished the machinery and placed the same in their

mill at Irvington, for all the machinery and supplies necessary to complete mill.

Following is a report of the Asmuth Malt & Grain Co., of Milwaukee, Wis., on the barley crop of 1890, based on 856 letters of information: Briefly stated, the barley crop of 1890 shows not only a largely reduced acreage, but the yield per acre as well will fall short of that of 1889. The heaviest loss of acreage occurred in California, where large stretches of low lands had been rendered totally unfit for cultivation by virtue of the heavy inundations of last winter; on high ground, however, the yield there is excellent in every respect. Canada's extraordinary loss of acreage, variously reported as from 25 to 50 per cent., while also in part ascribable to a wet condition of the low-lands, is mainly the direct result of the fear among growers that the Congress of United States would at an early day increase the present import duty on foreign barley to a point bordering on the utter exclusion of the Canadian cereal from the markets of our country. Except in California, Utah and Montana, and more especially in Oregon and Washington, which latter two States exhibit most magnificent results in every respect, the weight of the berry will this year be considerably less than it was last year, owing to the fact that a period of excessive heat settled over the chief barley-producing region of the United States at a most inopportune time, ripening the grain before the heads were well filled. The color of the berry will be very much brighter than it was last year, and as this most desirable feature is accompanied by general excellence of the grain, the brewing and distilling industries of the United States may hope to be supplied, as in 1889, with an article of malt that will be sure to give satisfaction. It is expected that the year 1890 will be one of higher prices, at least from 15 to 20 per cent. above those of last year.

#### ANOTHER SPRINKLED MILL BURNED.

Another instance of the failure of automatic sprinklers is given. The Pullman Oatmeal Mills, at Kensington, Illinois, burned on August 10, were fully equipped with Kersteter automatic sprinklers, wet-pipe in summer and dry-pipe in winter. The equipment was put in during the spring of 1889 and was approved by expert fire-insurance inspectors. The riser was 3-inch and the water supply was from a gravity-tank located on a trestle of the roof of the main building, and having a capacity of 5,800 gallons. The tank stood 15 feet above the highest sprinkler. There was a duplex fire-pump in the engine-room, which could be thrown on the sprinkler-system, which supplied the sprinkler-tank. There was an automatic electric alarm with 8-inch gong. The Kersteter dry-pipe and valve air-pump were on the fifth floor. There was no tell-tale for tank and no means of reaching the tank to inspect it. Otherwise the equipment seemed to be about up to standard. The mill and engine and boiler house were well sprinkled, extra heads being put in places where machinery would interfere with head on the regular piping. Each elevator-head had a sprinkler inside. There was an inside stand-pipe, with hose on each floor. There was an electric clock with fire stations, and on each floor there was a cask of water with two pails. The fire had smoldered, it is supposed, for 48 hours before it was discovered on the third floor of the mill. The flames burst from the windows about 9 o'clock in the forenoon and spread with great rapidity, appearing at nearly all sides at once. On top of the elevator stood the tank from which the water supply came, but the flames, fanned by a strong wind from the northeast, jumped from the stone walls of the mill up the frame-work of the elevator, boiling the water, which sizzled and sent off clouds of steam, and as it rushed through the hose compelled those who were making the fight to leave the burning building. A wooden wheelbarrow is the only article that was saved, so rapid was the destruction. The buildings were owned by W. M. Druly, who had in the elevator oatmeal valued at \$3,000. The total amount of insurance was \$31,000 at three per cent., of which \$28,000 was upon the building and \$3,000 on the stock.

The illustrated souvenir and premium list of the Inter-State Fair, to be held in Elmira, N. Y., Sept. 1 to 12 next, is out. It is a beautifully printed and profusely illustrated volume, and it makes a fine showing for the enterprising inland city. Address Geo. M. Robinson, Elmira, N. Y., for copies and information.



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THE PATRONAGE of the MILLING TRADE is MOST RESPECTFULLY SOLICITED.

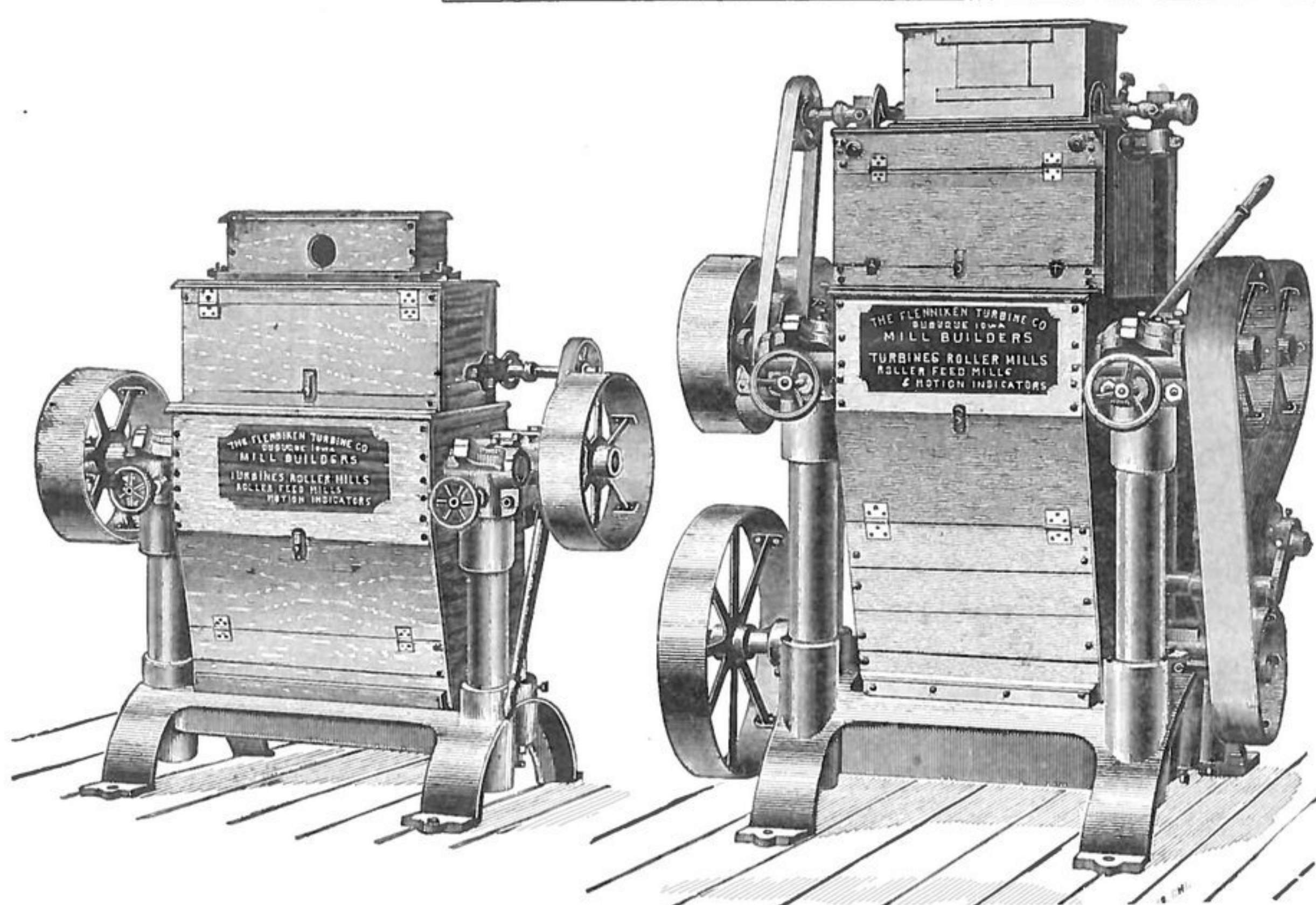


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*Ye jolly millers, one and all,  
Who granulate with burrs,*

A Moses has Come to Deliver You from Egypt. Cease Trying to Make Bricks without Straw. The Red Sea of Expense Has Been Divided.

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Having consummated a bargain with **MR. O. C. RITTER**, the author and patentee of **One Reduction**, which gives us the *exclusive right* to construct mills under his patents, our patrons in the future will receive a license from Mr. Ritter.

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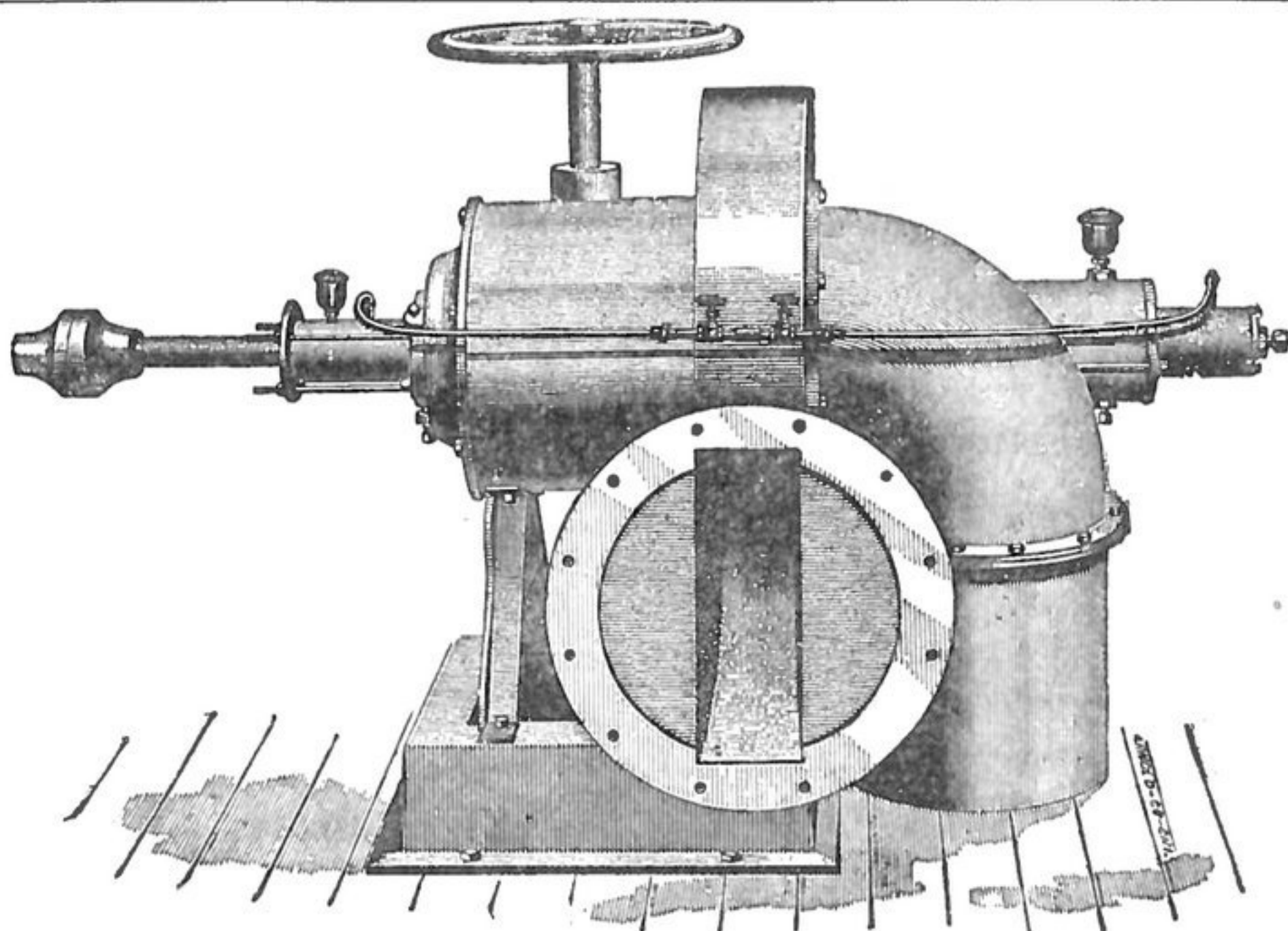
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## EUROPEAN ECHOES.

THE National Association of British and Irish millers elected as president for 1890-91 Mr. John F. White, of Dundee, Scotland. He was born in 1831 and has been engaged in milling since 1852.

THE journal of the Russian Ministry of Finance states that the exports of cereals from Russian principal custom houses, from the 1st of January to the 26th of May, amounted to 2,520,000 tons, comprising 1,170,000 tons of wheat, 582,000 tons of rye, 300,000 tons of barley, 270,000 tons of oats and 178,000 tons of maize. Compared with the corresponding period in 1889, there is a decrease of about 540,000 tons of cereals on the total exports.

AN English letter of recent date reads: "While opinion seems so much divided as to how far our English crop is likely to have suffered from the ungenial character of the season, the following facts may be of interest as bearing upon the question. During the past thirty years we have had four 'bumper' crops, in 1863 a crop of 17,400,000 quarters; 1864 a crop of 16,000,000 quarters; 1868 a crop of 16,000,000 quarters; and 1870 a crop of 14,800,000 quarters. In all four years the summer was characterized by long and severe drought. The 1868 crop gave the best return per acre, and in that year the rainfall for May, June and July was about the smallest on record. On the other hand, there is not a single instance of an abundant yield after an ungenial June and July; not even when, as in 1875, the unfavorable early summer was followed by brilliant harvest weather. I would especially commend this latter fact to the notice of those who speak so confidently of a few weeks of sunshine remedying all the evil effects of this hitherto unkindly season."

CABLE reports from Europe on August 8 were as follows: Germany and Austria-Hungary made very large wheat crops. Russia and France made average crops. English crop is yet doubtful. Expressed in figures the foregoing means: Austria-Hungary made a very large crop in 1888, 180,000,000 bushels; take this for a basis, Austria-Hungary will have 45,000,000 bushels more for export than last year, when her crop was 135,000,000 bushels. Germany made a very large crop in 1885, 107,000,000 bushels; take this for a basis, Germany will have to import 12,000,000 bushels less than last year, when her crop was 95,000,000 bushels. Russia's average of the last six years' crops is 230,000,000 bushels; taking this for this year's basis, she will have 35,000,000 bushels more for export than last year, when her crop was 195,000,000 bushels. France's average of the last six years' crops is 300,000,000 bushels; taking this for this year's basis, she will have 10,000,000 bushels to import more than last year, when her crop was 310,000,000 bushels. We thus have Austria-Hungary to export more than last year 45,000,000 bushels, Germany to import less than last year 12,000,000 bushels, Russia to export more than last year 35,000,000 bushels—total, 92,000,000 bushels; France to import more than last year 10,000,000 bushels; balance 82,000,000.

SAYS the London "Miller" of July 28: But for the harvest stores in John Bull's ships there would now be short commons in a few places; for the cupboards of France and Germany are found to be bare at the ending of the cereal year. However, as there is always "corn in English ships," French and other merchants had but to offer 1s. to 2s. per quarter over home buyers to get a very timely replenishment of Californian and Australian wheat. As a matter of course, Continental competitive offers have stiffened up value and infused fresh animation into English trade. Mainly France is the present buyer of cargoes from our ports-of-call as present supplies are needed, while harvest in progress is found to show an important inferiority to estimates made before the storm of 17 inst. Where 3,000,000 to 4,000,000 quarters of breadstuffs have been enough in recent seasons, France is now expected to import 5,000,000 to 6,000,000 quarters in the new campaign; and as her merchants

usually act promptly when a deficiency is known, an active autumn trade is likely to follow. Wheat, however, now 48s. 7d., is offered for Sept.-Dec. delivery at 5s. per quarter less money, showing confidence that ordinary harvest weather may yet give a fair amount of corn. New wheat is expected early in August. Russia, now commencing its harvests, finds great irregularity in samples, some being over an average in weight, others shriveled and inferior. Stocks at Odessa being low and Russia's customers numerous, value is strong at the recent advances gained. Great efforts are being made to bring forward the new crops early in autumn. Australia, the Argentine Republic and India slowly go on shipping, and the United Kingdom gets imports as full as they are required. At the same time the importance of harvest this season is emphasized, since there is a shortage of reserves everywhere, as admitted, so that deficiency anywhere in the maturing crops is likely to affect the markets generally. A little while ago plentiful crops were discounted; at present short crops are discounted, and accordingly the harvest period of ingathering is looked for with great interest.

### CROPS IN BAD SHAPE.

According to the government crop report of August, there is a reduction in the condition of all cereals reported by the Statistician of the Department of Agriculture. The decline from July 1 to August 1 is from 93.1 to 73.3 in corn; from 94.4 to 83.2 in spring wheat; from 81.6 to 70.1 in oats; from 88.3 to 82.8 in barley. Condition of buckwheat is 90.1, and of spring rye 86.8. Condition of Irish potatoes is reduced from 91.7 to 77.4. A fall of 20 points indicates the disaster which has befallen the corn crop within 20 days. The cause is the abnormally high temperature of the central maize districts, with insufficiency of rain-fall. The crop is late in the New England States and will require a long warm season to mature it. In the Middle States the high temperature has advanced growth in the northern districts, and in the more southern there has been some injury from drouths. The South Atlantic States report local drouths, with subsequent rains and comparatively good, though somewhat reduced, condition of corn. Some counties in Mississippi have suffered materially from absence of seasonable moisture. In Louisiana the crop is in high condition, though somewhat late in the overflowed districts. In Texas the crop is now matured, and is good except in the area that has suffered most from drouth. Late planted corn in Arkansas has been seriously injured by drouth of the last three weeks in July. In western and southwestern parts of Kentucky the crop has been severely scorched, but the rains since the 23d of July have materially relieved the fields of the central and eastern districts. The southern counties of Ohio, Indiana and Illinois have received greater damage than the northern. Condition is slightly higher in Missouri. In Kansas the severity of the drouth has culminated. Iowa and Nebraska are nearly in the status of the Ohio Valley, while Minnesota makes the highest average of all the States. Wisconsin suffers slightly and Michigan still more from drouth. Another crop of great importance, potatoes, has also been much damaged by drouth. A low rate of yield is assured.

### A NEW METHOD OF TREATING DISEASE.

#### HOSPITAL REMEDIES.

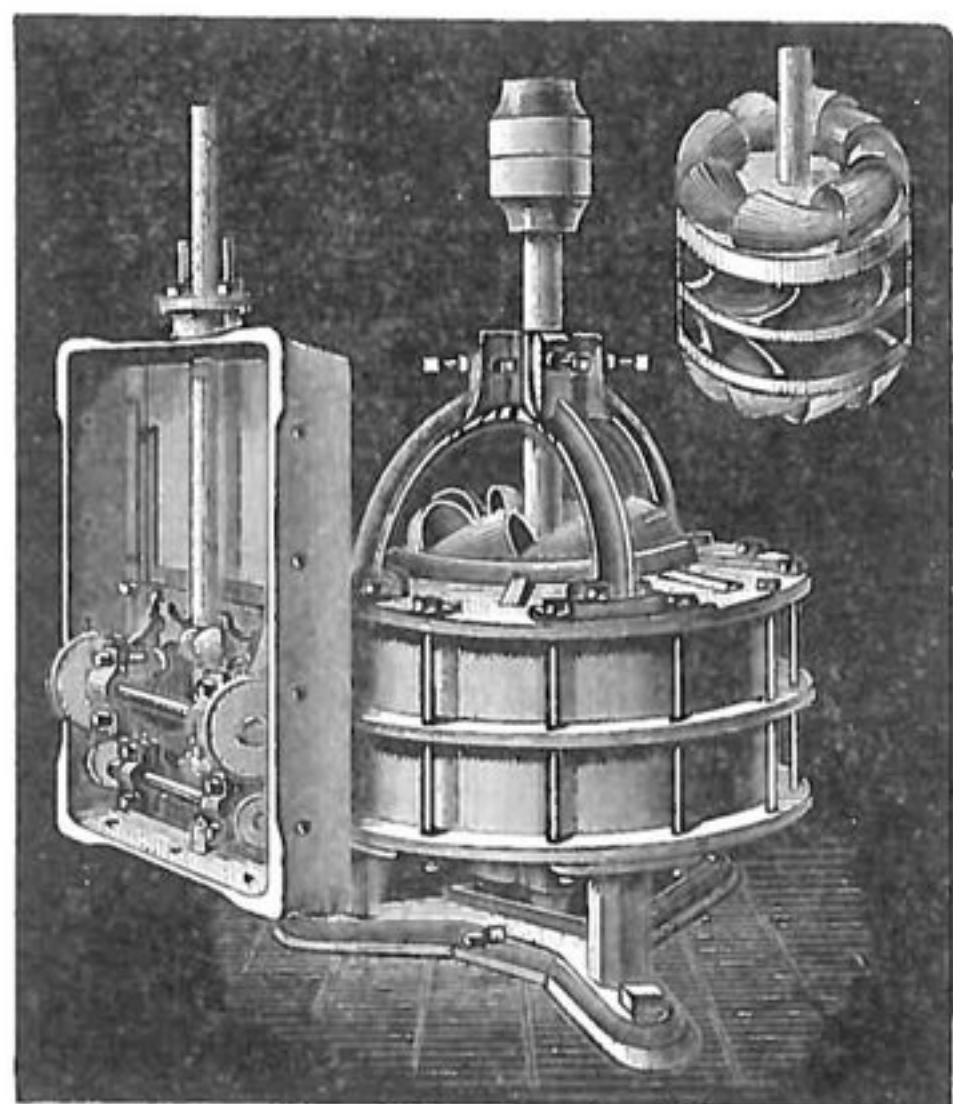
What are they? There is a new departure in the treatment of disease. It consists in the collection of the specifics used by noted specialists of Europe and America, and bringing them within the reach of all. For instance the treatment pursued by special physicians who treat indigestion, stomach and liver troubles only, was obtained and prepared. The treatment of other physicians, celebrated for curing catarrh was procured, and so on till these incomparable cures now include disease of the lungs, kidneys, female weakness, rheumatism and nervous debility.

This new method of "one remedy for one disease" must appeal to the common sense of all sufferers, many of whom have experienced the ill effects, and thoroughly realize the absurdity of the claims of Patent Medicines which are guaranteed to cure every ill out of a single bottle, and the use of which, as statistics prove, *has ruined more stomachs than alcohol*. A circular describing these new remedies is sent free on receipt of stamp to pay postage by Hospital Remedy Company, Toronto, Canada, sole proprietors.



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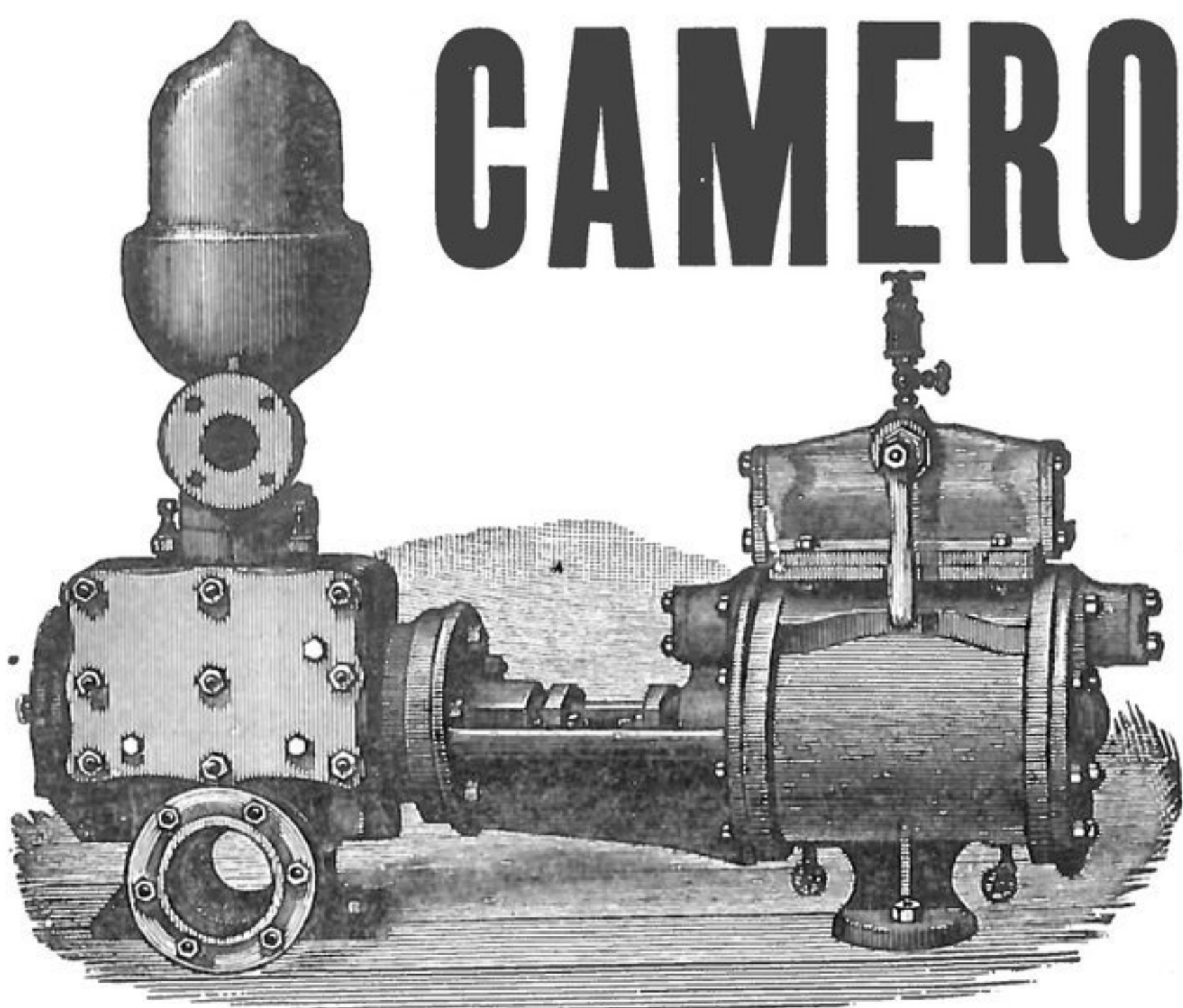


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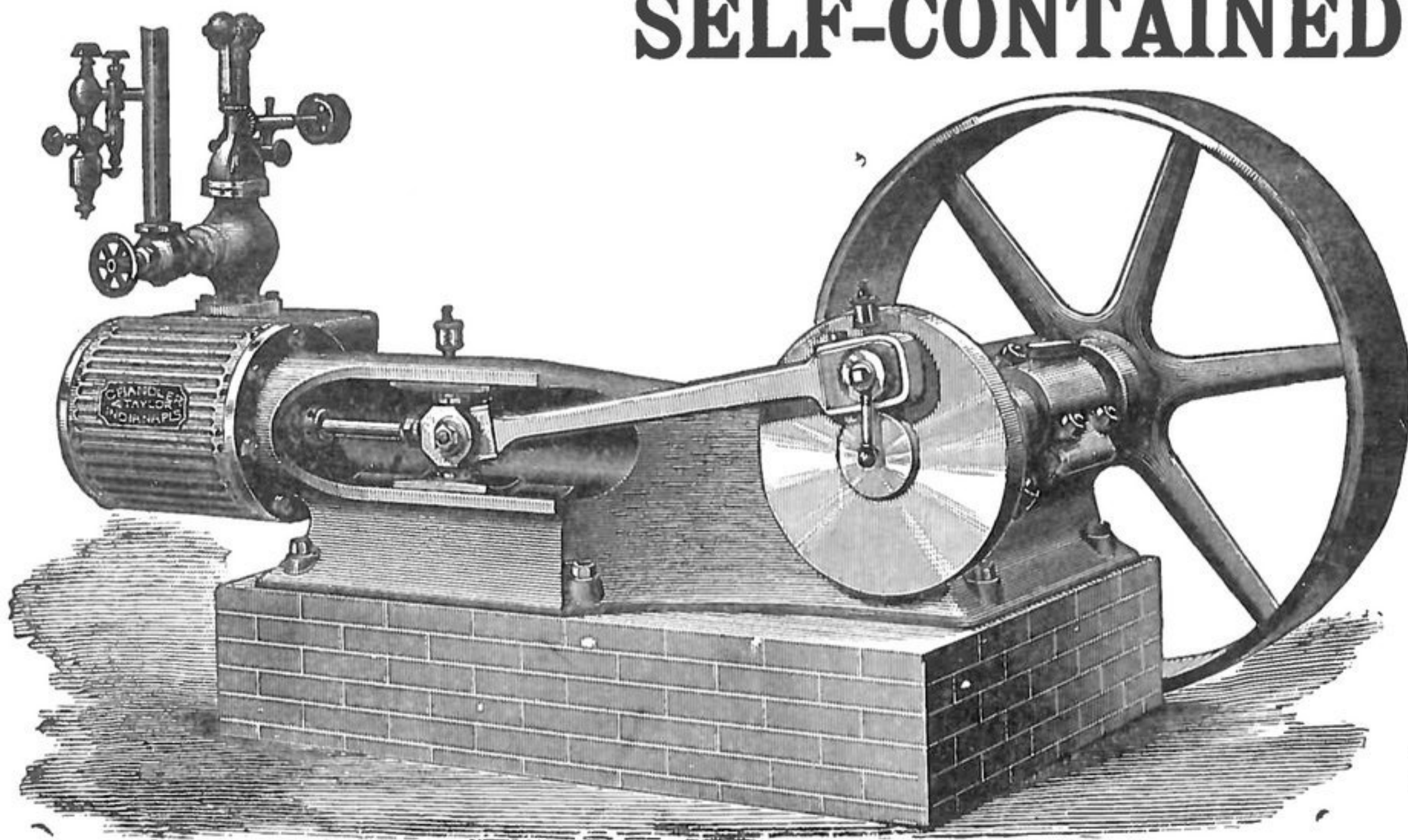
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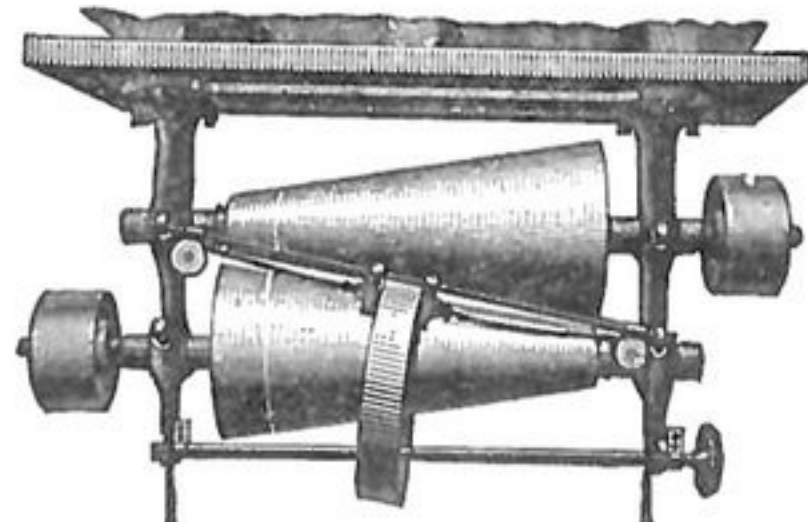
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## Chandler & Taylor Co., Indianapolis, Ind.

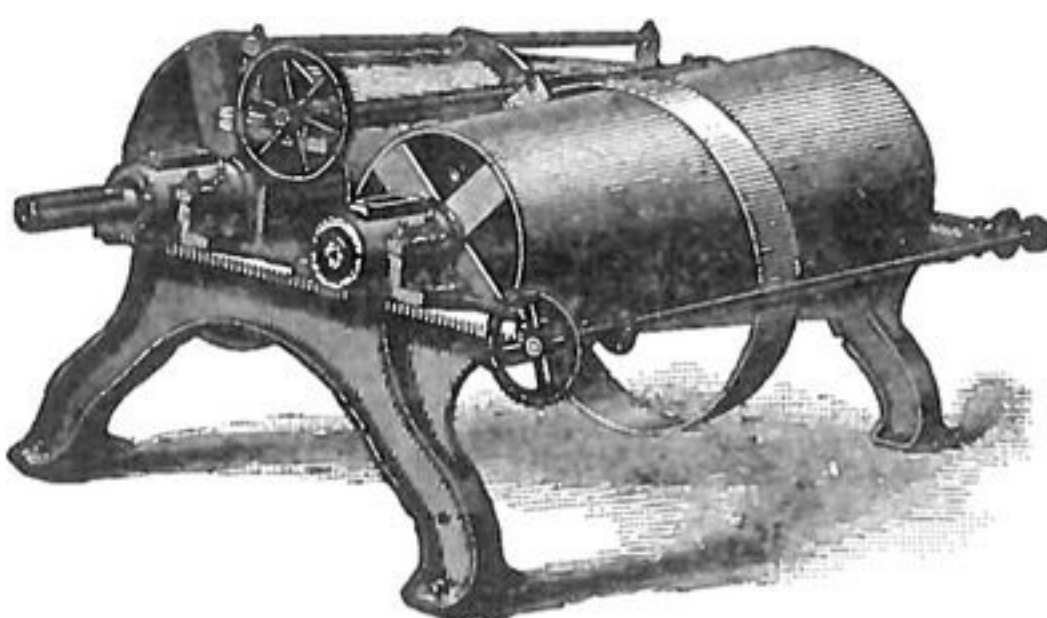
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"PATENTED."



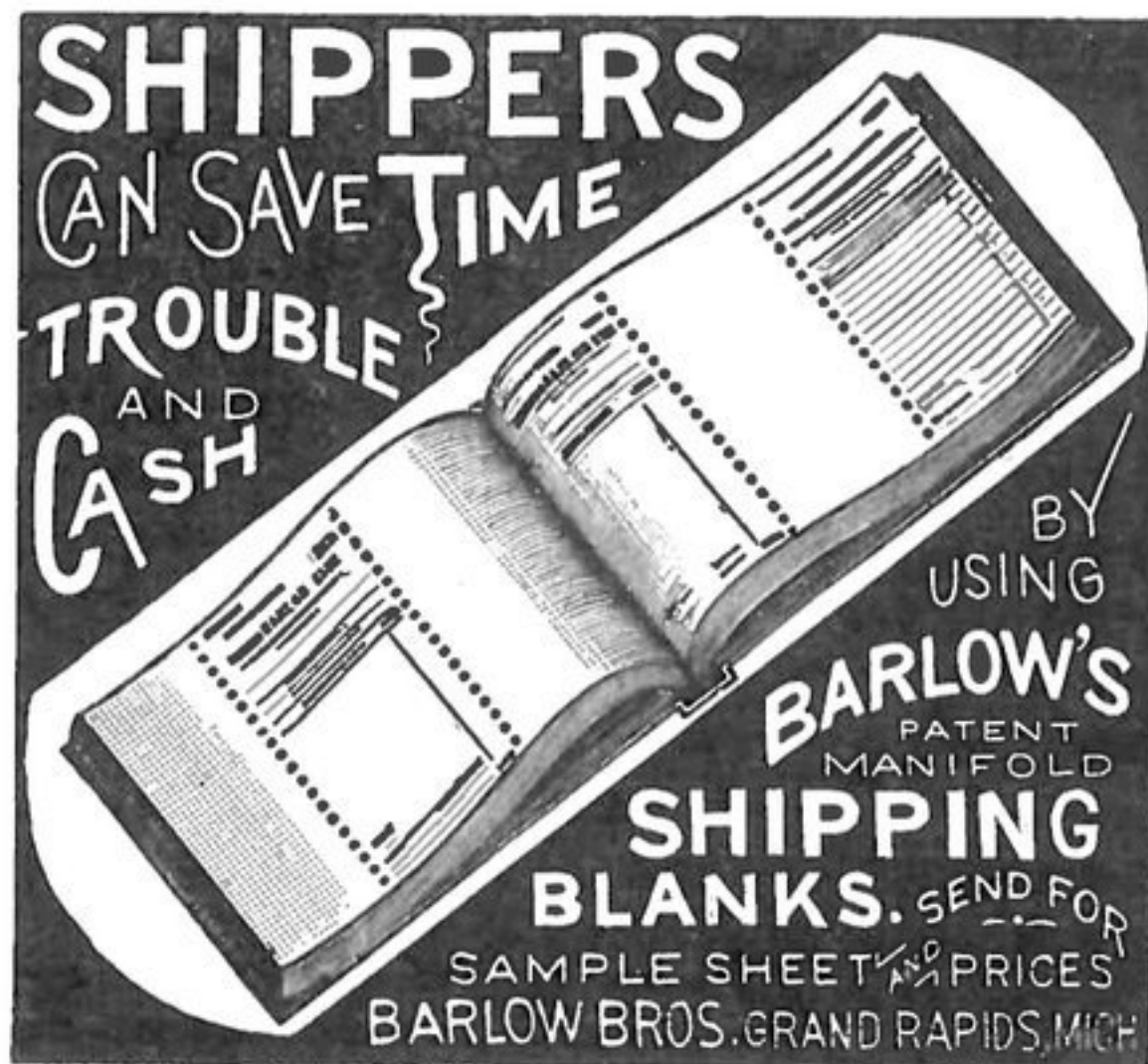
This cut represents a set of hanging cone pulleys. This pattern is intended for that class of machinery that stops and starts at the same time, and at the same time be able to change the speed more or less while running. These cones are also fitted with a governor where a steady motion is required and the initial power is



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SAMPLE SHEET & PRICES  
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OFFICE OF THE MILLING WORLD,  
BUFFALO, N. Y., August 16, 1890.

Friday of last week was a day of irregular and somewhat weaker markets, on better cables and weather reports. In New York August wheat closed at 97½c., September at 98c., October at 98½c., November at 99½c. and December at \$1.00¼. Atlantic port receipts were 133,350, exports 230,623, and options 2,450,000 bushels. The bears used the European cables to demonstrate that the excess of the European wheat crops over last year is about 82,000,000 bushels, exactly equal to the accepted deficiency in the United States crop this year. August corn closed at 54¾c., with receipts 188,331, exports 97,792, and options 875,000 bushels. August oats closed at 43c., with receipts 75,628, exports 37,205, and options 85,000 bushels. Wheat flour was in small demand all around. Receipts were 2,750 sacks and 24,700 barrels, and exports 7,747 sacks and 1,331 barrels. The minor lines were quiet and featureless.

Saturday brought more active and decidedly higher wheat markets, on reports of frost in the Northwest and on bullish cables. Frost was reported in Manitoba, and it was feared that North Dakota and Minnesota would be scourged. Manitoba officials have since "fully investigated" the frost reports, and they deny that any damage was done. August wheat closed at \$1.00½, and December at \$1.02¾. Receipts were 293,636, exports 178,671, and options 3,320,000 bushels. August corn closed at 56c., on cold weather reports in the corn belt, which caused the shorts to rush to cover. Receipts were 141,404, exports 103,488, and options 1,500,000 bushels. August oats closed at 44½c., with receipts 65,406, exports 11,172, and options 90,000 bushels. The government report made the condition of spring wheat 83.2, against 94.4 last month, the corn crop 73.3, against 93.1 last month, and oats 70.1, against 81.6 last year on the corresponding date. Wheat flour was quiet generally. Receipts were 9,938 sacks and 30,346 barrels, and exports were 6,563 barrels. The minor lines were featureless.

Monday was a day calculated to make the average grain bear sorry that he did not die last year. The government crop report imparted some strength to the markets, and frost reports from the Northwest strengthened holders still further. August wheat closed at \$1.02½, September at \$1.02½, October at \$1.03¼, November at \$1.04, and December at \$1.04¾. Receipts were 295,974, exports 52,663, and options 9,500,000 bushels. Cables were firm on showery weather in Great Britain. August corn closed at 56½c., September at 56½c., and October at 67½c., with receipts 178,857, exports 22,997, and options 1,496,000 bushels. August oats closed at 45½c., with receipts 86,273, exports 14,832, and options 150,000 bushels. Wheat flour was strong with wheat, but not active. Receipts were 5,847 sacks and 29,248 barrels, and exports 6,499 sacks and 1,679 barrels. Nominal quotations were: \$3.85@4.00 for No. 1 spring in sacks for standard export grades, \$4.10@4.40 for bakers' extras in sacks, \$4.35@4.80 in barrels, \$4.20@4.40 for rye mixtures, \$4.85@5.10 for straight springs, \$5.20@5.85 for patent do, \$5.10@5.65 for patent winters, \$4.85@5.10 for straight do, \$4.50@4.85 for clear do, \$4.20@4.50 for No. 1 do, \$3.35@3.75 for No. 2 do in sacks and barrels, \$2.90@3.30 for superfine do do, \$2.35@2.75 for fine do, \$4.75@4.85 for city mills for West Indies, \$5.20@5.65 for patent do. The minor lines were strong and quiet. The visible supply in the United States and Canada was:

	1890.	1889.	1888.
Wheat.....	18,490,492	13,370,678	25,227,699

Corn.....	11,103,270	6,738,425	8,539,092
Oats.....	2,259,713	4,003,754	1,773,327
Rye.....	488,196	807,562	176,989
Barley.....	362,559	444,021	145,535

Tuesday was a day of mixed markets. August wheat closed at \$1.03½, September at \$1.04, October at \$1.04½, November at \$1.05¼, December at \$1.06½, and January at \$1.07. Receipts were 135,421, exports 144,758, and options 4,900,000 bushels. The amount on passage decreased 48,000 bushels. Foreign buying imparted strength. August corn closed at 55½c., with receipts 71,698, exports 173,530, and options 1,500,000 bushels. The amount on passage increased 1,080,000 bushels. August oats closed at 44¼c., with receipts 52,607, exports 24,913, and options 400,000 bushels. Wheat flour was strong and more active, and prices advanced 5@10c. all around. Receipts were 6,814 sacks and 33,447 barrels, and exports 7,269 sacks and 2,523 barrels. All the minor lines were active.

Wednesday was a day of stronger opening markets, on bad weather reports, on stronger cables and on large clearances, with weaker closing on realizing by longs. August wheat sold up to \$1.05½ and closed at \$1.04. Receipts were 113,695, exports 254,943, and options 5,200,000 bushels. South Dakota reports made the condition of wheat in that State 64, less than the last government estimate. August corn started in at 55½c. and closed at 55c. Receipts were 122,503, exports 5,391, and options 1,096,000 bushels. Iowa and Kansas reported good rains. August oats closed at 43¾c., with receipts 53,438, exports 7,532, and options 100,000 bushels. Rye grain was quiet and nominally as follows: 63@64c. delivered for Western in boat-loads; Canada 64@65c., and 64@65c. for State car lots, track, 58@62c. Malt was firm and fairly active. Quotations: 80c. for country Canada and 85@90c. for city do. Mill-feed was strong as follows: 40-lb, 85@90c.; 60-lb, 80@85c.; 80-lb, 85@90c.; 100-lb, 95@1; sharps. 95c@1. Rye feed, 90@95c.

Wheat flour was advanced 5@10c. on the rise in wheat. Receipts were 1,848 sacks and 19,073 barrels, and exports 1,225 sacks and 5,305 barrels. Quotations were: \$4@4.20 for No. 1 springs in sacks for standard export grades and \$4.20@4.50 for bakers' extras in sacks, \$4.50@4.90 in barrels, \$4.20@4.75 for rye mixtures, \$4.80@5.35 for straight springs, \$5.25@5.90 for patent do—fancy \$6.00; \$5.10@5.65 for patent winters—fancy, \$5.75; \$4.85@5.25 for straight do—fancy, \$5.35@5.50; \$4.35@5.00 for clear do—5.10 for fancy; \$4.30@4.65 for No. 1 do, \$3.40@3.80 for No. 2 do in sacks and barrels, \$2.90@3.50 for superfine do do, \$2.37@2.75 for fine do, \$4.85@4.90 for city mills for West Indies, \$5.20@5.75 for patent do.

Rye flour was higher and active at \$3.30@3.60 for superfine and \$3.75 for fancy. Corn products were slow at the following quotations: Brandywine \$3.25; Southern and Western \$2.50@3.20; coarse bag meal \$1.05@1.07; fine yellow \$1.10; fine white \$1.15@1.20 for city; Southern do \$1.05@1.65 for the whole range in bags; yellow granulated \$3.25@3.50; white do \$3.50@4.00, the latter fancy; \$3.50@4.00 for flour in barrels, the latter fancy.

Thursday brought a slight reaction. August wheat closed at \$1.03½, with receipts 41,000, exports 32,000, and options 4,408,000 bushels. August corn closed at 54¾c., with receipts 32,000, exports 9,000, and options 816,000 bushels. August oats closed at 41½c., with receipts 25,000, spot sales 71,000, and options 140,000 bushels. Wheat flour was firm and inactive. Receipts were 12,000 packages, and sales 18,000 barrels. Quotations were: Low extras \$3.00@3.60; city mills \$4.90@5.15; city mill patents \$5.35@5.90; winter wheat, low grades \$3.60@3.90; fair to fancy \$3.75@5.25; patents \$4.85@5.75; Minnesota clear \$4.45@5.10; straight \$4.50@5.35; Minnesota straight patents \$4.90@5.85; rye mixtures \$4.25@4.75; superfine \$2.50@3.50. The other lines were featureless. The Minneapolis output of flour last week was 136,000 barrels, and prices were 20@40c. per barrel higher than a week ago. Trade was small.

## BUFFALO MARKETS.

WHEAT—Very quiet; little trading; prices too high. Sales were reported of 1,200 bu No 1 hard spot at \$1 12, 8,000 bu c. i f. at \$1 11; 1,200 bu spot No. 1 Northern at \$1.10½, 600 bu No. 2 Northern at \$1.08; closing dull at \$1 12 for No. 1 hard; \$1.10 for No. 1 Northern, and \$1.08 for No 2 do. At the close No. 2 red was held at \$1 02; 2,400 bu extra No. 3 red sold at 98c, and 1,200 bu No. 1 white at \$1.01. CORN—Market dull and lower to-day. At the close No 2 yellow was quoted at 53¼@53½c; No. 3 do 53c; No. 2 corn at 51½@51¾c, and No. 3 do at 51¼@51½c. OATS—Sales were reported of No. 2 white at 43¼@43½c; new do on track at 42½c; old No. 2 mixed at 42½@43c; and new do at 40½c. The market closed easy. RYE—The market is entirely nominal at 55@56c for No. 2. OATMEAL—Akron, \$6.45; Western, \$6.20 per bbl; rolled oats, in cases, 72 lbs, \$3 10. CORNMEAL—Coarse, \$1.00@1.05; fine, \$1.05@1.10; granulated \$1.60 per cwt. MILL-FEED—City-ground coarse winter, \$17.00@17.50 per ton; fine do. \$17.50@18.00; finished winter middlings, \$18.00@20.00; coarse spring do, \$18.

## FLOUR MARKET.

Spring Wheat.	Winter Wheat.
Patents..... \$6.00@....	Patents..... \$5.75@...
Straight..... 5.25@...	Straight... 5.25@...
Bakers..... 4.50@...	Clear .... 4.50@...
Red Dog..... 2.50@3.00	Low grades . 3.25@...
Rye flour .... 3.50@...	Graham..... 4.75@...

## THE QUOTATION OF SILVER.

The price of silver is always quoted in London in pence per ounce of sterling silver, or English coinage standard. Sterling silver is .925 parts pure silver in 1,000 parts, or, as we say, .925 fine. In the United States we quote the price of silver not of our own coinage standard fineness, which is .900 fine, but as pure silver. Knowing the London price of sterling silver in pence, if we multiply the pence by the co-efficient 1.6955, it will give the value in cents of the silver in our dollar in London. Multiplying the sterling price per ounce in pence by the co-efficient 2.19211 plus will give us the price of one ounce of pure silver in London. Thus, if silver in London is quoted at 50d. per ounce, then 50x1.6955=84.7750 is the value of the bullion in our dollars in London; 50x2.19211=109.60550 is the value of one ounce of pure silver as we would quote the price here.

Twelve cables have been laid between Europe and North America, the first two of which, laid by the Anglo American Company in 1858 and 1866, were abandoned years ago. These are dates of the ten in use: Anglo American—1873, 1874, 1880, and one bought from the French Company, which the latter laid in 1869. These four cables extend from Valentia, Ireland, to Heart's Delight, Newfoundland, and they are the shortest across the Atlantic. French Company—1870, Brest to St. Pietre. Direct Company—1884, Brest to Halifax. Mackay-Bennett Company—Two in 1884, from Ireland to Strait of Canso, N. S. American Cable Company—1881 and 1882, from Penzance, Eng., to Canso, N. S.

The Montreal Trade Review says of the Manitoba wheat crop: "It is doubtful if the aggregate quantity harvested will be very large, however, as many farmers reduced their wheat acreage this year in order not to lose too heavily if the crop was again a failure, and also on account of the high prices of seed wheat. One gentleman who has recently come from the Northwest said that while the wheat on his farm was in capital condition, yet so little had been planted that it would be only enough to keep them and leave enough for next year's seeding, and nearly all his neighbors were in the same condition. In view of this it is well not to expect a large export of wheat this year."

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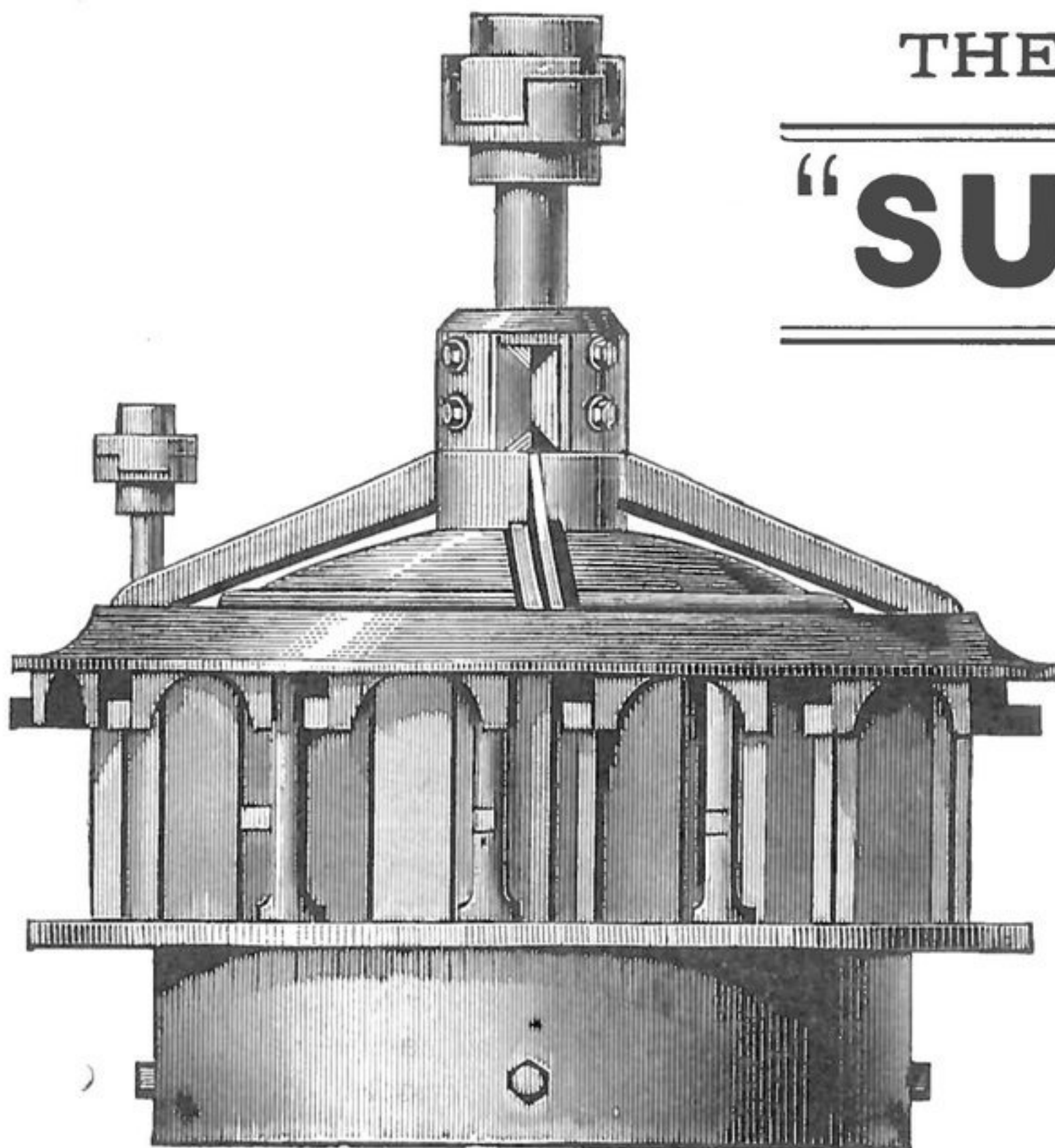
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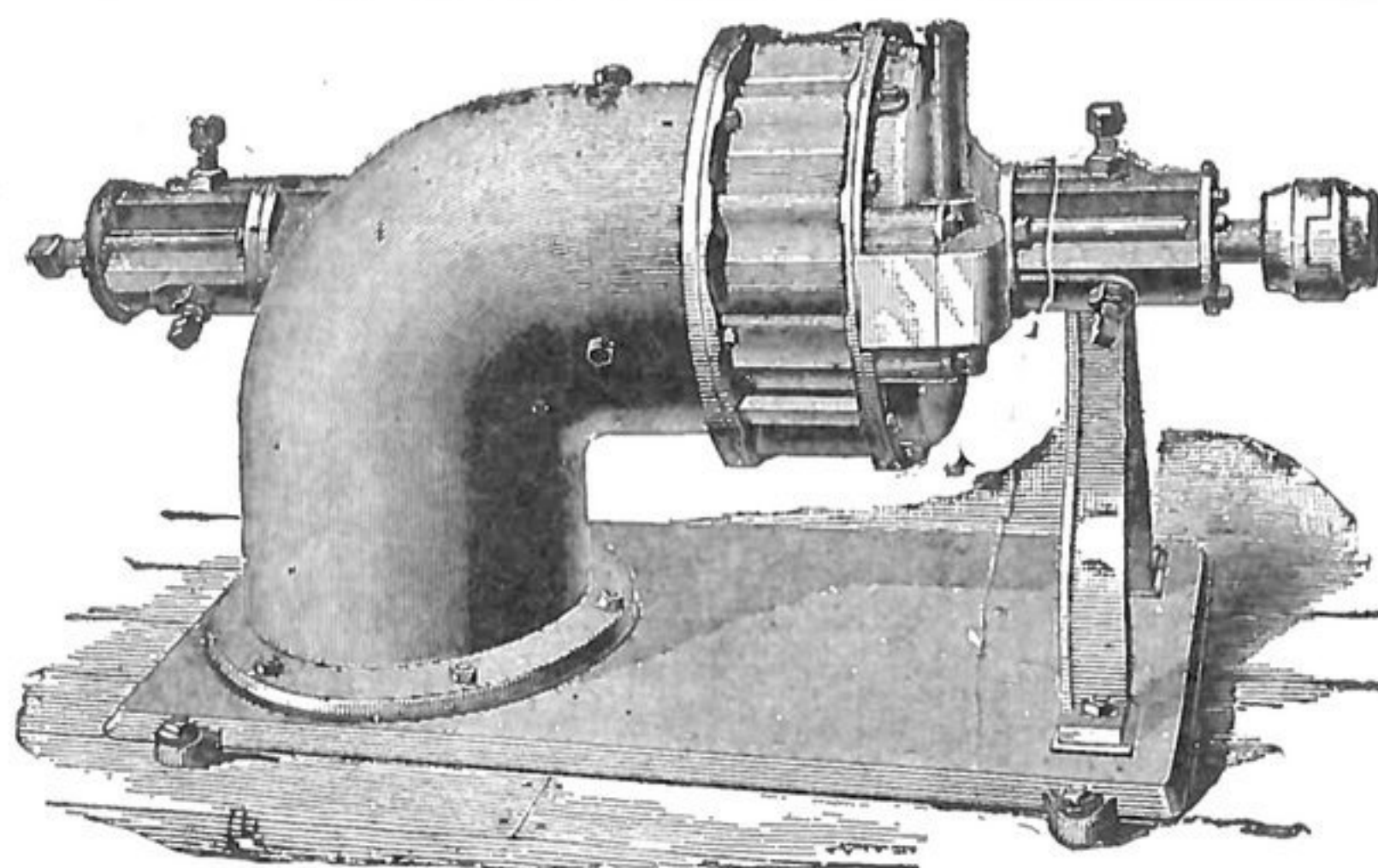
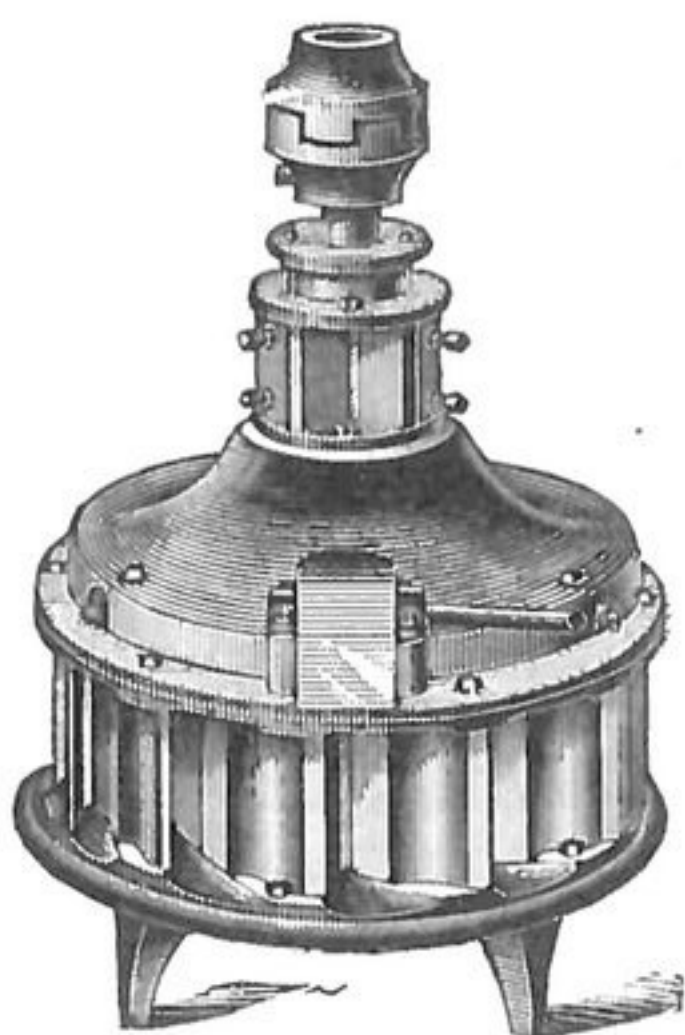
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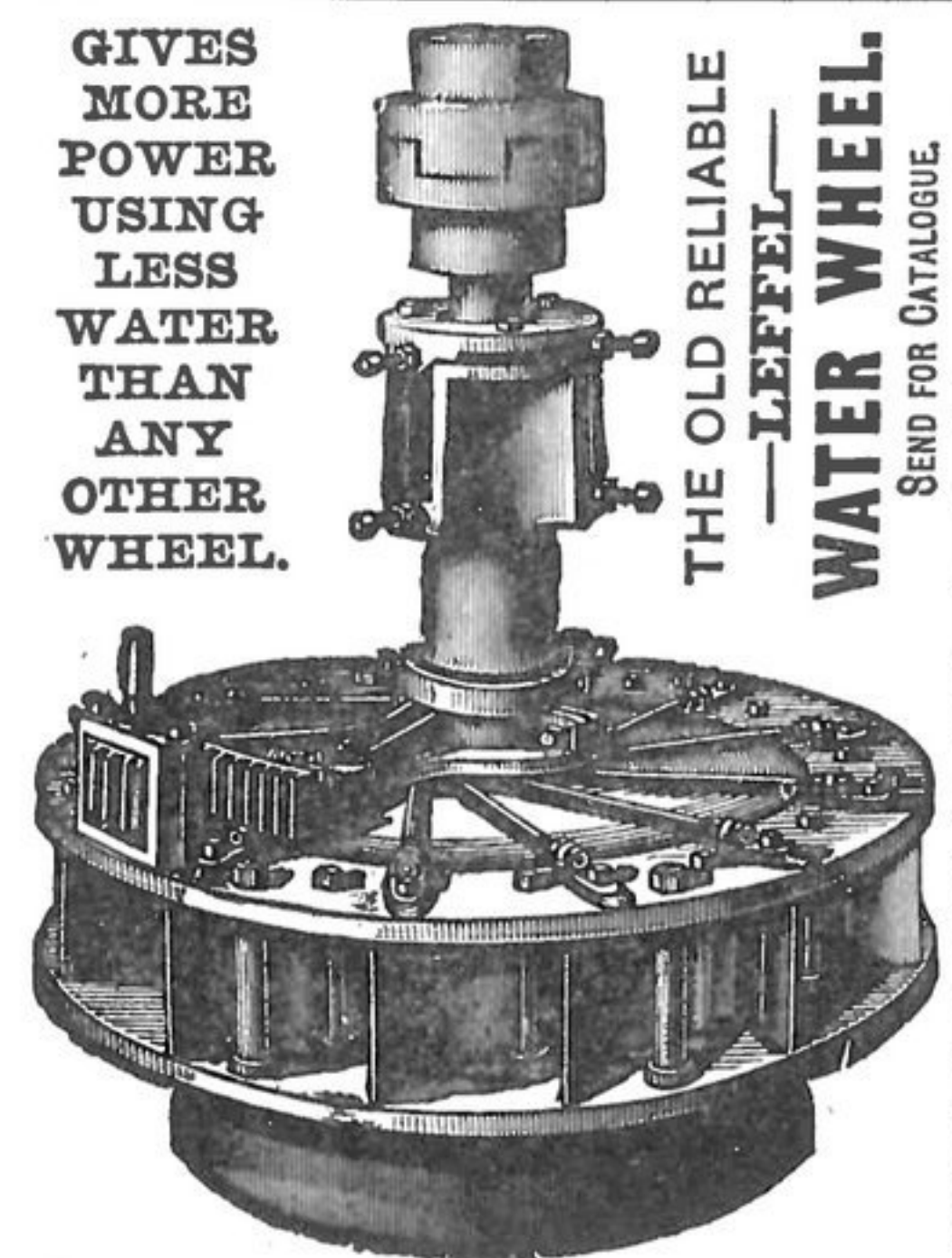
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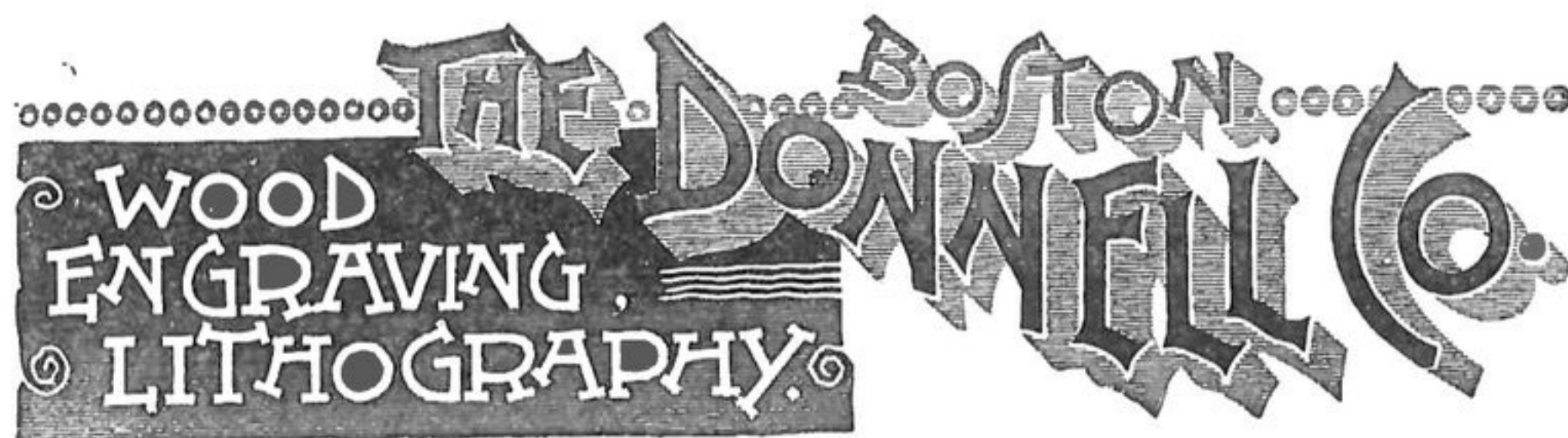
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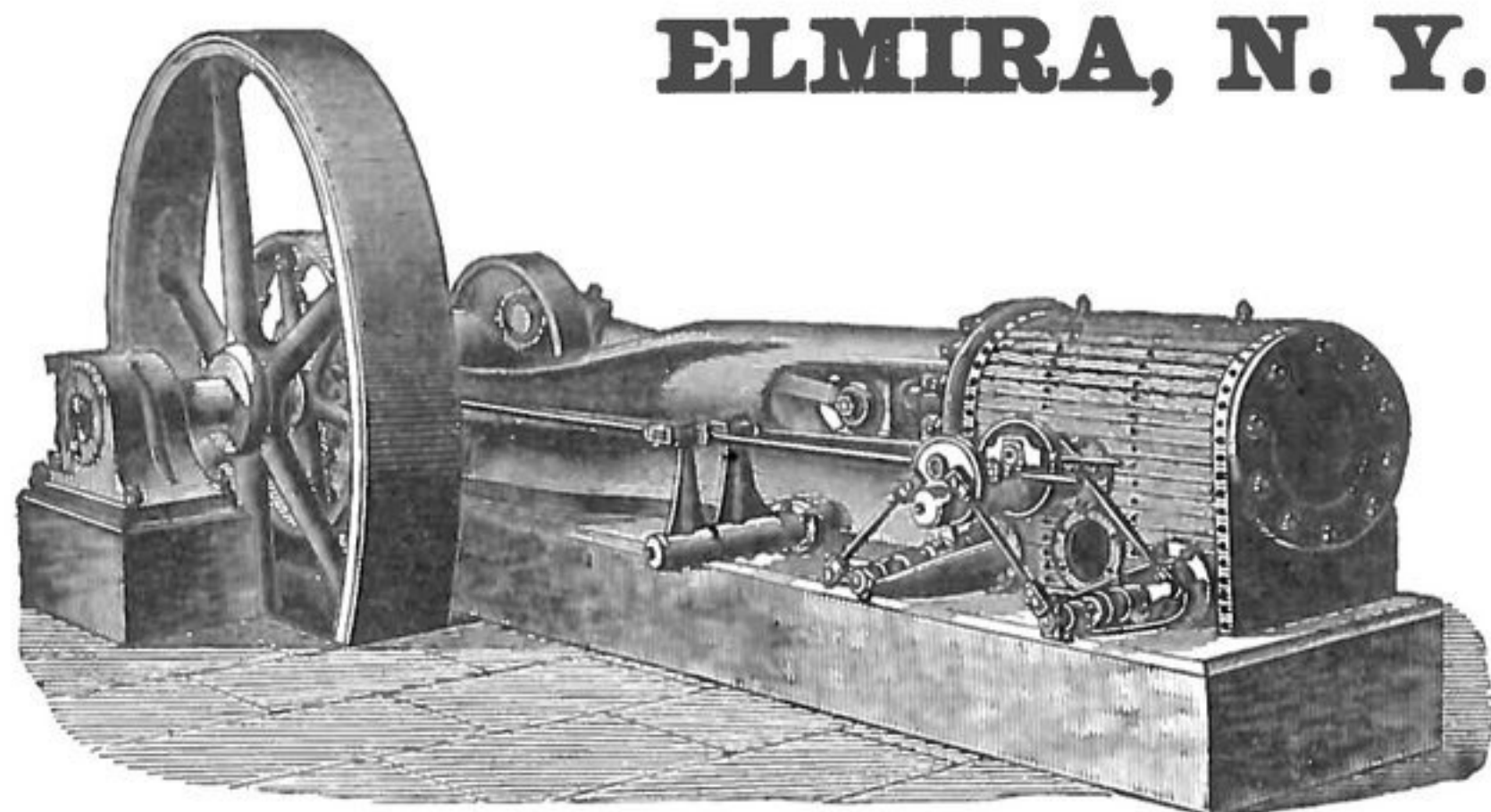


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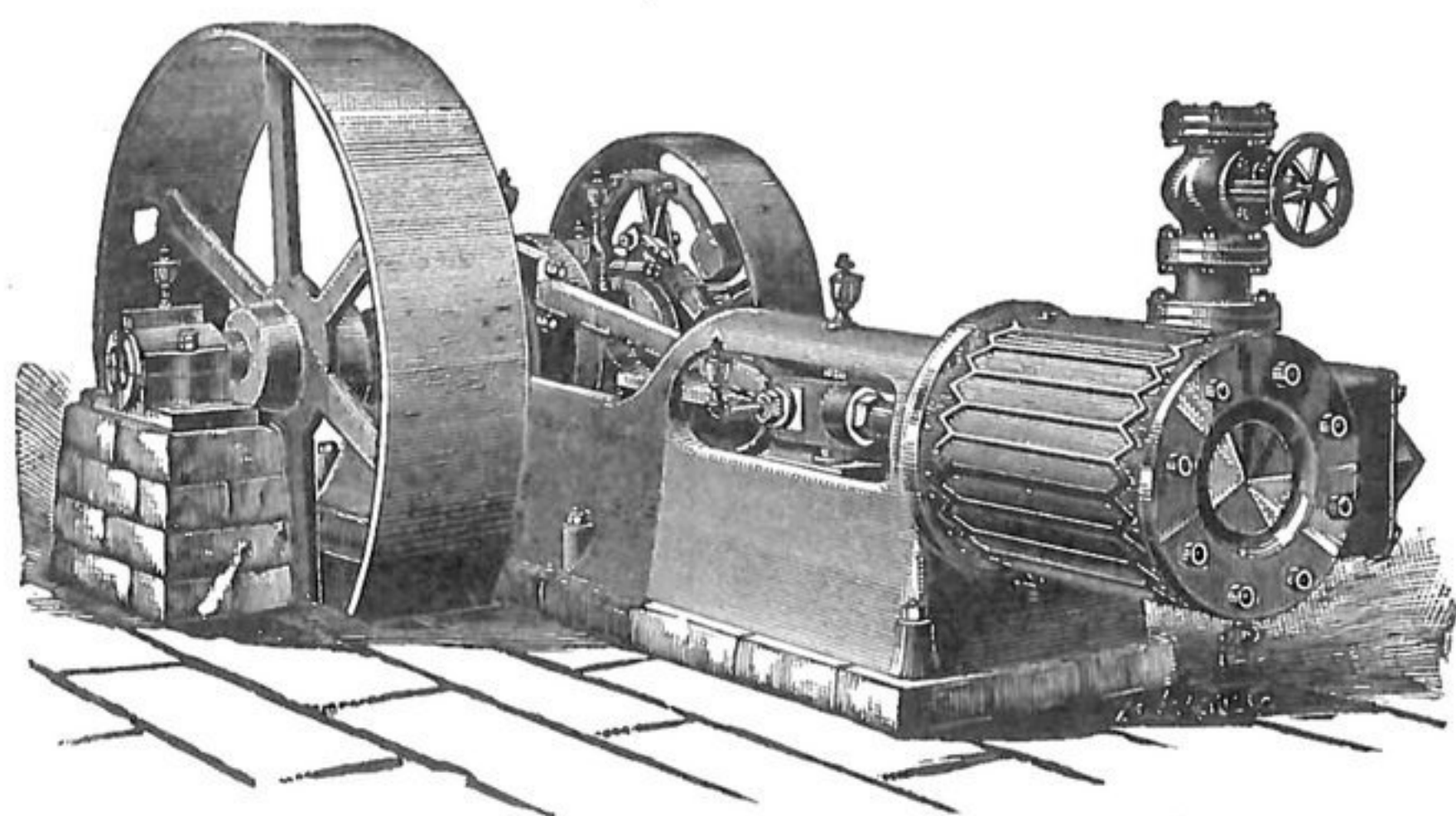
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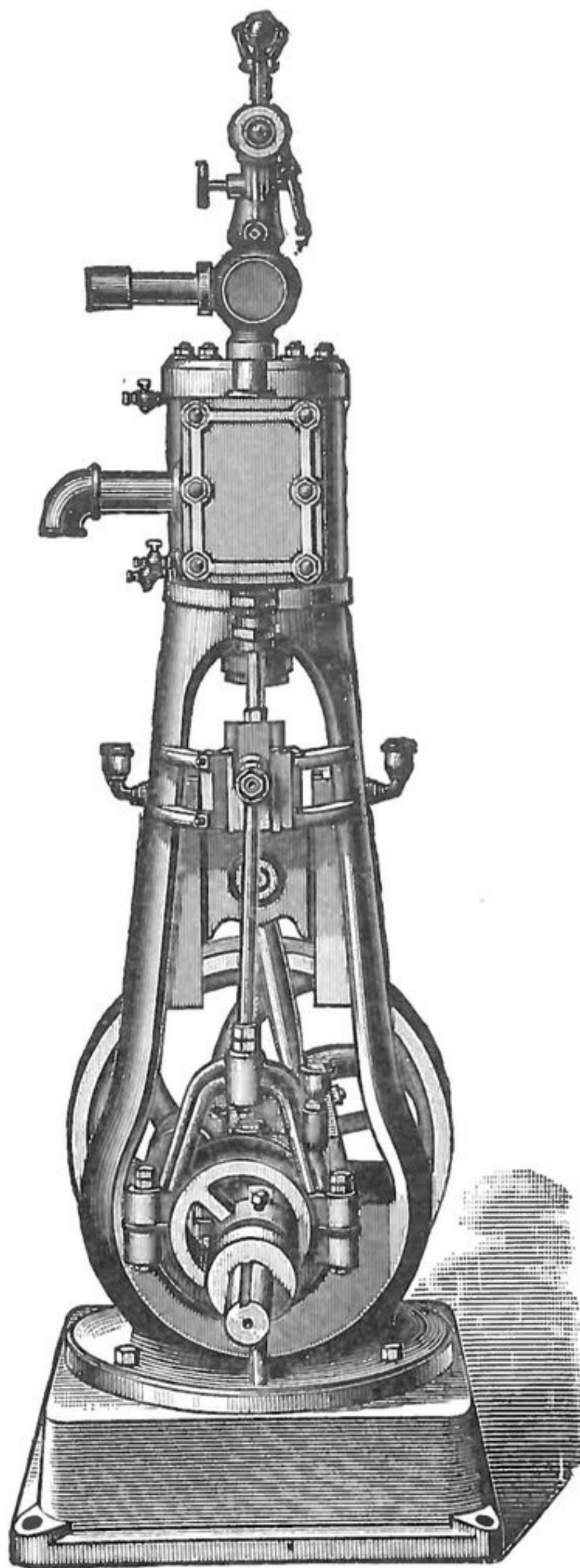
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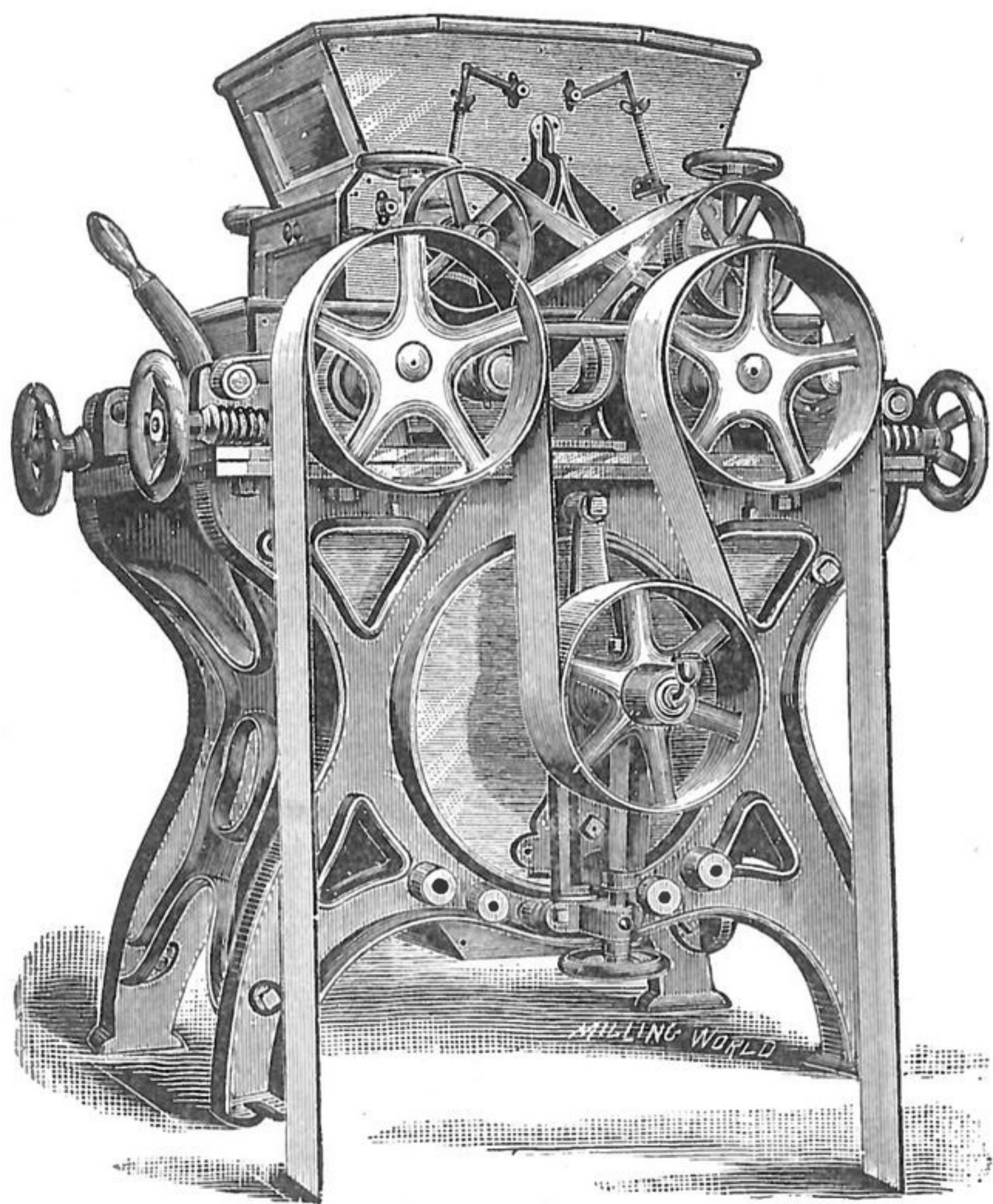
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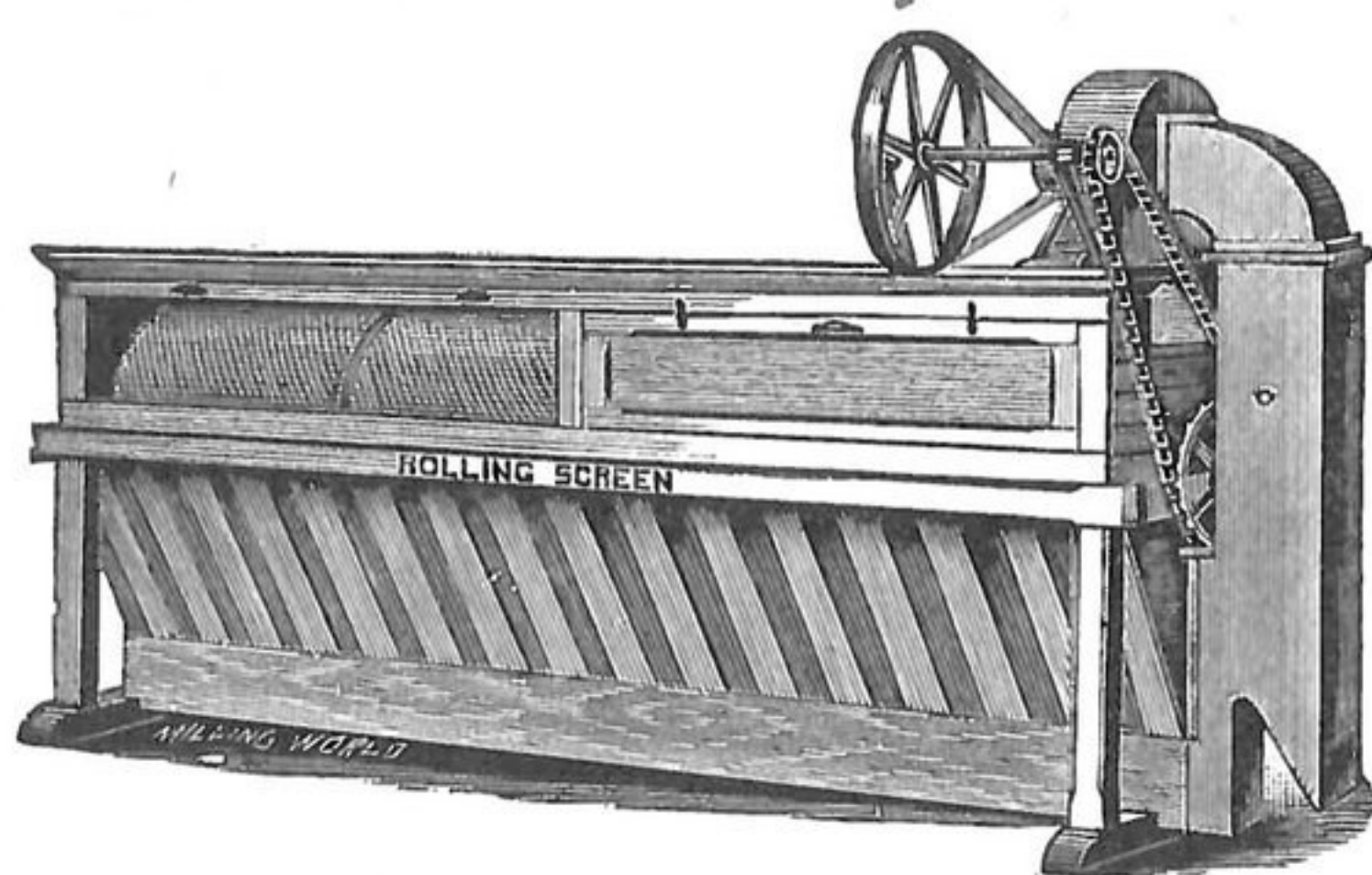
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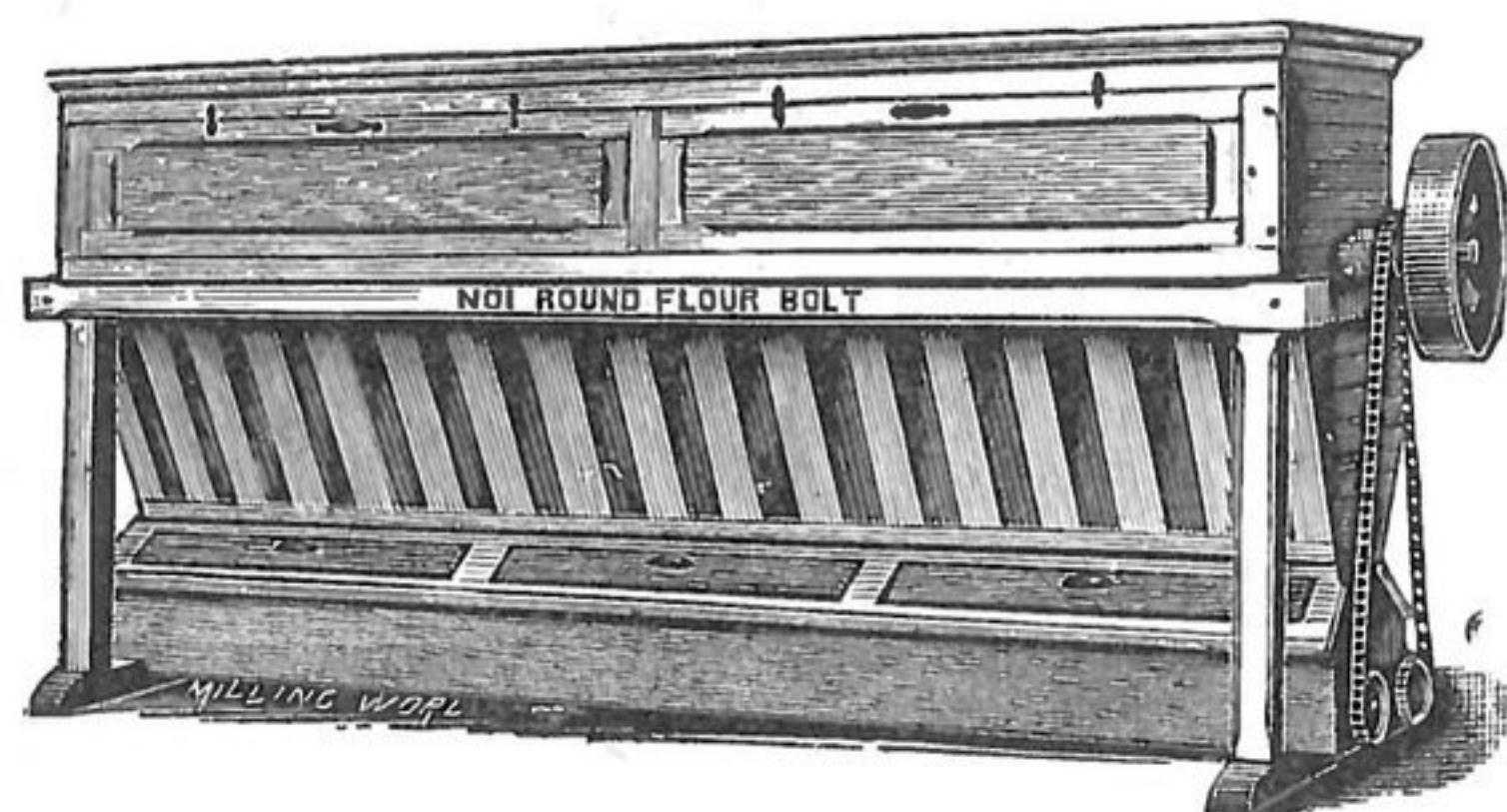
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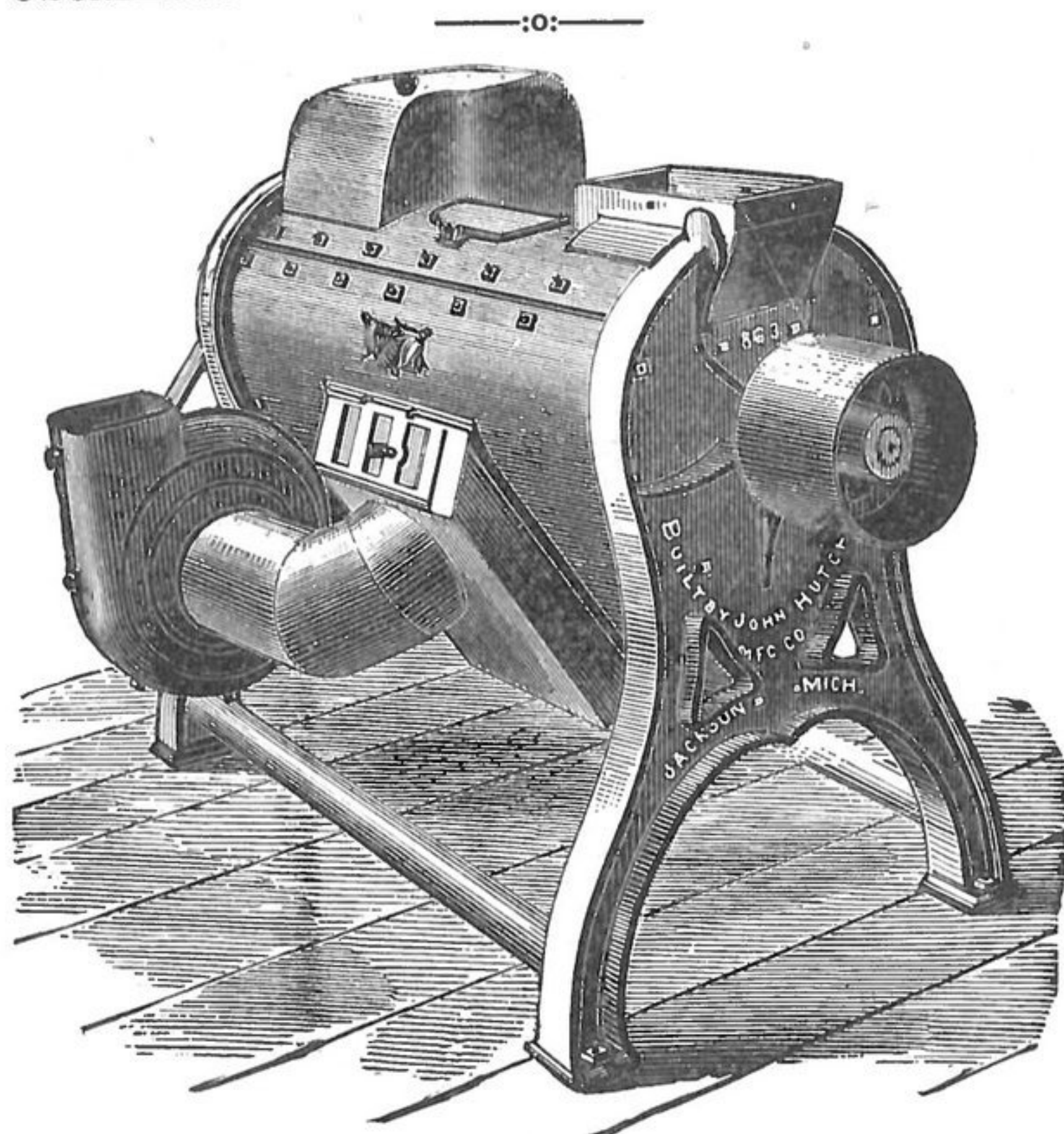


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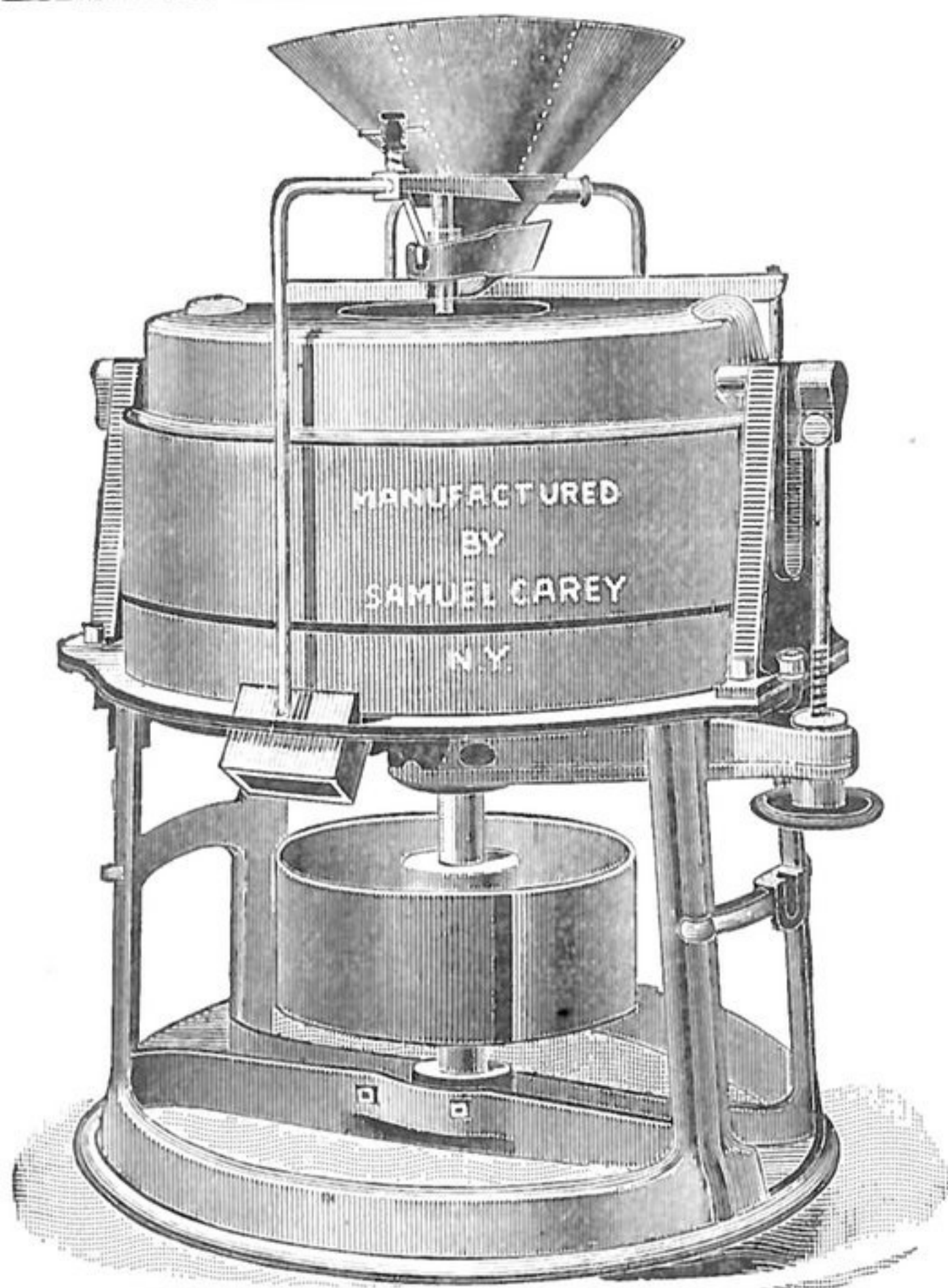
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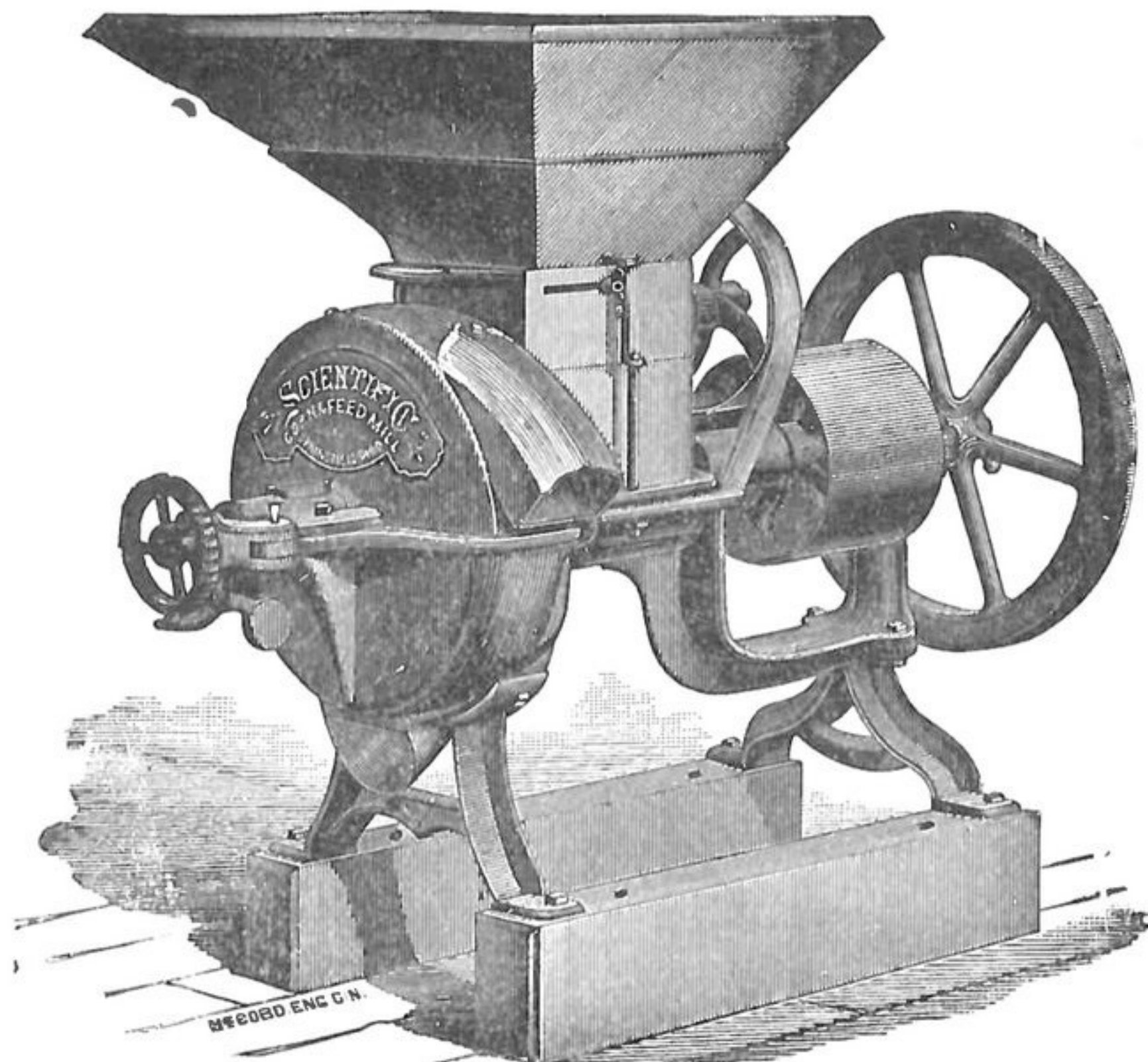
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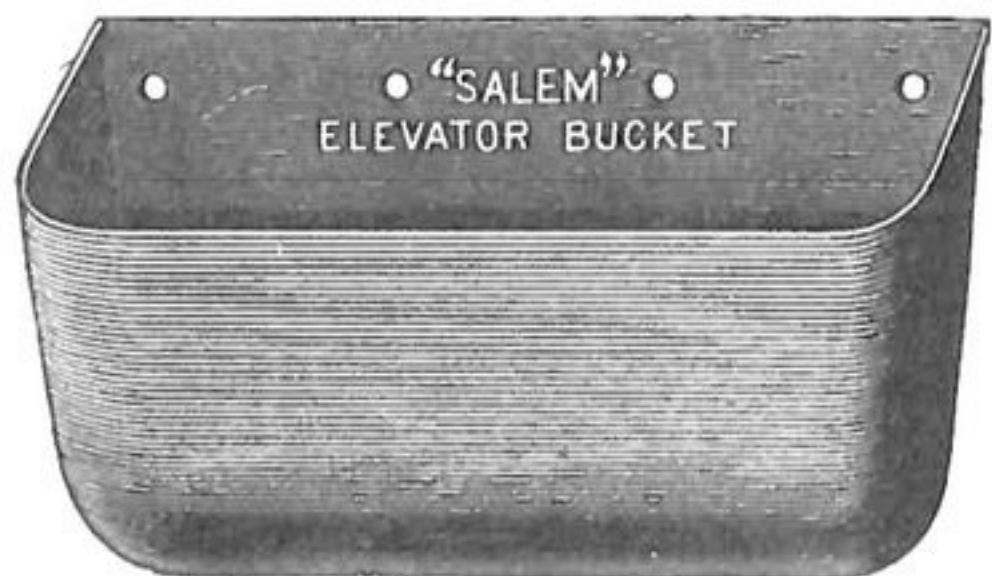
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